

City Research Online

City St George's, University of London

Citation: Vaughan, Lisa Therese (2011). A socio-cultural study investigating the influences on food and lifestyle choices, and the cultural transition, of British Bangladeshis living in Tower Hamlets East London. (Unpublished Doctoral thesis, City University London)

This is the unspecified version of the paper.

This version of the publication may differ from the final published version. To cite this item please consult the publisher's version.

Permanent repository link: https://city-ref-test.eprints-hosting.org/id/eprint/1158/

Copyright and Reuse: Copyright and Moral Rights remain with the author(s) and/or copyright holders. Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge, unless otherwise indicated, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way. For full details of reuse please refer to City Research Online policy.

City Research Online: http://openaccess.city.ac.uk/ publications@citystgeorges.ac.uk

A socio-cultural study investigating the influences on food and lifestyle choices, and the cultural transition, of British Bangladeshis living in Tower Hamlets East London

Lisa Therese Vaughan
PhD in Food Policy
City University London
Department of Public Health, Primary Care and Food Policy
Centre for Food Policy

August 2011

Table of Contents **Page**

Abstract **16**

Chapter 1 Introduction **17**

1.1 Why this approach? 18
1.2 Research aims 19
1.3 Structure of thesis 20

Section A: Background to the study **22**

Chapter 2 Bangladesh – Country and Culture **22**

2.0 Brief background to Bangladesh 22
2.1 Food security in Bangladesh 24
2.2 Religion – Islam and Halal Food Laws 29
2.3 Health beliefs – relationship between food and health 31
2.4 Migration to the UK 33
2.4.1 Deprivation and the Bangladeshi Community 37
2.4.1.1 Household size 38
2.4.1.2 Labour market 39
2.4.1.3 Social Security Benefits 42
2.4.1.4 Education 43
2.4.1.5 Health 44
2.5 Foodways – the migrant experience of British Bangladeshis 45
2.6 Summary 51

Chapter 3 Diabetes Mellitus - Models of Causality **52**

3.0 Introduction 52
3.1 Description of Aetiological Subtypes 52
3.1.1 Type 1 diabetes 52
3.1.2 Type 2 diabetes 52
3.1.3 Gestational diabetes 54
3.1.4 Metabolic syndrome 55
3.1.4.1 Anthropometric measurements 55
3.2 Global Burden of Disease 56
3.2.1 Type 2 diabetes 56
3.2.1.1 Beliefs and values 59

3.3 Explanations for nutrition-related non-communicable diseases – The biological determinants 60
3.3.1 The Challenge of Nutrition: in prevention and causality 60
3.3.2 Hunter-Gatherer Diet –Palaeolithic diet 62
3.2.2.1 The glycaemic index 63
3.3.3 The Nutrition Transition and the Impact of Globalisation 64
3.3.3.1 The nutrition transition 66
3.3.3.1.1 Dietary shifts: increased availability of oil, more added caloric sweeteners and more animal source foods 68
3.3.3.1.1.1 Edible Oil 68
3.3.3.1.1.2 Caloric Sweetener 68
3.3.3.1.1.3 Animal Source Foods 69
3.3.3.2 The Shifting Burden 69
3.3.3.3 Migration 70
3.3.3.4 Developed Countries and the Nutrition Transition – specific issues 71
3.3.3.5 Physical Activity 74
3.3.4 Thrifty genotype 74
3.3.5 Foetal malnutrition – thrifty phenotype 76
3.3.6 Epigenetics 78
3.3.7 Life-course approach 79
3.3.8 Social Nutrition 81
3.4 Social Epidemiology 82
3.4.1 Social patterns of health inequalities 83
3.4.1.1 Social patterns of health inequalities in ethnic minority populations 85
3.4.1.2 Social patterns of health inequalities and Type 2 diabetes 87
3.4.2 Government Interventions – public health policy 87
3.4.3 Materialist versus behavioural/lifestyle explanations 88
3.4.3.1 The psychosocial environment (social capital) 89
3.4.3.2 Cultural explanations 93
3.4.3.3 Materialist Explanations 94
3.4.4 Social policy and inequalities in health 96
3.4.5 Residential segregation 98
3.4.6 Racism 98
3.4.6.1 Racism in health care/research 99
3.4.7 Social influences on food choice 101
3.5 Summary 102

Chapter 4 Food policy 103

4.0 The Burden of Disease - consequences and costs 104
4.1 Public Health Policy – obesity policy 106

4.1.1 Australian obesity policy 108
4.1.2 New Zealand obesity policy 109
4.1.3 UK obesity policy 109
4.2 The Focus on Individuals - personalisation 110
4.2.1 Personalised Nutrition 112
4.2.1.1 Food Advertising 114
4.2.1.2 'Techno' foods 116
4.3 Potential Policy Options 120
4.3.1 Supply-side interventions 121
4.3.2 Demand-side options 123
4.3.3 The uniqueness of food 125
4.4 Summary 126

Section B: Research methodology and findings 128

Chapter 5 Research Methodology 128

5.0 Introduction 128
5.1 Overview and epistemology 128
5.2 Systemised review 129
5.3 Research approach 132
5.4 Ethics approval 133
5.4.1 Amendments to research design 133
5.5 Research design 134
5.5.1 Trans-cultural research 135
5.5.2 Facilitation and Translation 137
5.5.3 Validation of transcripts 138
5.5.4 Written Information 138
5.6 Methods of data collection – research aims and questions 139
5.6.1 Community participants 143
5.6.1.1 Inclusion criteria 143
5.6.1.2 Exclusion criteria 144
5.6.1.3 Recruitment 145
5.6.1.3.1 Facilitator observations of the recruitment process: semi-structured interviews 146
5.6.1.3.2 Facilitator observations of the recruitment process: Multiple Pass Dietary Recall 148
5.6.1.4 Characteristics of the community research participants 149
5.6.1.4.1 Characteristics of the community participants: phase I pilot interviews 151
5.6.1.4.2 Characteristics of the community participants: phase II one-to-one interviews 154
5.6.1.5 Phase I: Pilot interviews to pilot the interview topic guide

and interview process 159
5.6.1.5.1 Development of the interview topic guide 159
5.6.1.5.2 Paired interviews to pilot the interview topic guide 160
5.6.1.5.3 Utility of the interview schedule and interview process 160
5.6.1.5.4 Summary of amendments to interview topic guide 164
5.6.1.5.5 Summary of amendments to the interview process 164
5.6.1.6 Phase II: one-to-one semi-structured interviews: Community participants 165
5.6.1.7 Phase III: Multiple Pass Dietary Recall 166
5.7 Methods of data collection: Key informant interviews 167
5.7.1 Recruitment 168
5.7.2 Characteristics of participants – key informant interviews 170
5.7.3 Phase II: One-to-one interviews: key informants 174
5.8 Data Analysis and presentation of results 175
5.8.1 Semi-structured interviews 175
5.8.1.1 Benefits of Nvivo versus paper in the analysis 177
5.8.2 Multiple Pass Dietary Recall 178
5.8.3 Reflexivity 179
5.8.4 Presentation of results 179
5.9 Significance of frequency scores and references in the coding 180
5.9.1 Summary of the significance of coding frequencies 184
5.10 Research evaluation 185

Chapter 6 Research findings: Phase I and II community interviews 186

6.0 Factors influencing food and activity choices 187
6.0.1 Socio-cultural 187
6.0.1.1 Being Bangladeshi 188
6.0.1.2 Religion 190
6.0.1.3 Food literacy 191
6.0.1.4 Sources of information 192
6.0.1.5 Class and education levels 198
6.0.1.6 Family history 199
6.0.1.7 Health knowledge 199
6.0.1.8 Food purchasing practices 207
6.0.1.9 Cooking practices and preparation 210
6.0.1.10 Mealtime structure 215
6.0.1.11 Eating away from home / outside food 218

6.0.1.12 Summary of socio-cultural influences 223
6.0.2 Psychological 228
6.0.2.1 Addiction 228
6.0.2.2 Advertising 229
6.0.2.3 Body image 229
6.0.2.4 Brand 230
6.0.2.5 Convenience 230
6.0.2.6 Emotions 231
6.0.2.7 Ethical and moral considerations 233
6.0.2.8 Organic produce 235
6.0.2.9 Habit 236
6.0.2.10 Health consciousness 237
6.0.2.11 Motivation 238
6.0.2.12 Parental control 239
6.0.2.13 Perception of time for food procurement and preparation 239
6.0.2.14 Quality 240
6.0.2.15 Status and image 242
6.0.2.16 Taste 244
6.0.2.17 Way of the world – fatalism 246
6.0.2.18 Western image 247
6.0.2.19 Summary of the psychological influences on food choice 247
6.0.3 Environmental 252
6.0.3.1 Access 252
6.0.3.2 Availability 253
6.0.3.3 Affordability 255
6.0.3.4 Food chain 258
6.0.3.5 Travel to and from Bangladesh 260
6.0.3.6 Isolation 261
6.0.3.7 Literacy and language 261
6.0.3.8 Lifestyle 262
6.0.3.9 Summary of environmental influences on food choice 263
6.0.4 Physiological influences 266
6.0.4.1 Digestion 267
6.0.4.2 Hunger 267
6.0.4.3 Illness 268
6.0.4.4 Strength 268
6.0.4.5 Summary of physiological influences on food choice 268
6.1 Dietary Patterns 268
6.1.1 Traditional diet 269
6.1.2 Western diet and urbanisation 270
6.1.3 Diet changes 272
6.1.4 Quantity 272
6.1.5 Snacks 272

6.1.6 Drinks 273
6.1.7 Summary of the dietary patterns seen in the community 274
6.2 Multiple pass dietary recall 275
6.2.1 Meal patterns of community participants 276
6.2.2 Location of meals taken by the community participants 281
6.2.3 Details of food choices taken by community participants 282
6.3 Physical Activity Environment 289
6.3.1 Individual physical activity 289
6.3.2 Sedentary activities 290
6.3.3 Beliefs around exercise 290
6.3.4 Perceived barriers to exercise 292
6.3.5 Summary of the physical activity environment 295
6.4 Respondent Recommendations 296
6.4.1 Method and location of education delivery 297
6.4.2 Information delivery 300
6.4.3 Specific groups within the community to be targeted 301
6.4.4 Policy 303
6.4.4.1 Regulation of advertising 303
6.4.4.2 Fat taxes 304
6.4.4.3 Food retail landscape 304
6.4.4.4 Front-of-pack labelling 305
6.4.4.5 Government responsibility versus personal responsibility 306
6.5 Summary 307

Chapter 7 Research findings: Phase II Key Informant Interviews 309

7.0 Factors influencing food and activity choices 310
7.0.1 Socio-cultural 310
7.0.1.1 Being Bangldeshi 311
7.0.1.2 Religion 312
7.0.1.4 Food literacy 314
7.0.1.4 Cooking practices and preparation 315
7.0.1.5 Mealtime structure 319
7.0.1.6 Eating away from home / outside food 321
7.0.1.7 Food purchasing practices 324
7.0.1.8 Sources of information 325
7.0.1.9 Class and education level 333
7.0.1.10 Health knowledge 333
7.0.2 Psychological 343
7.0.2.1 Advertising 344
7.0.2.2 Body image 345
7.0.2.3 Status 345
7.0.2.4 Convenience 346

7.0.2.5 Emotions 347
7.0.2.6 Ethical considerations 349
7.0.2.7 Health consciousness 350
7.0.2.8 Parental control 351
7.0.2.9 Perceptions – time and safety 351
7.0.2.10 Food quality 353
7.0.2.11 Taste 353
7.0.2.12 Western image 354
7.0.3 Physiological 355
7.0.3.1 Hunger 355
7.0.4 Environmental 356
7.0.4.1 Access and availability 356
7.0.4.2 Affordability 360
7.0.4.3 Isolation 362
7.0.4.4 Literacy and language 364
7.0.4.5 Lifestyle 364
7.1 Eating patterns 368
7.1.1 Traditional diet 368
7.1.2 Western diet and urbanisation 369
7.1.3 Snacks 372
7.1.4 Drinks 373
7.1.5 Quality 373
7.1.6 Dietary changes – positive 375
7.2 Physical Activity 376
7.2.1 Beliefs around exercise 377
7.2.2 Perceived barriers 378
7.3 Causes of obesity and diabetes 381
7.3.1 Biology 381
7.3.2 Social determinants 382
7.4 Burden of disease 383
7.5 Professional Practice 385
7.5.1 Challenges to professional practice 386
7.5.1.1 Funding 390
7.5.2 Educational role 393
7.5.3 Policy and strategic responsibilities 394
7.5.4 Prevention 397
7.5.5 Research 398
7.6 Policy debates 399
7.6.1 Tipping point 400
7.6.2 Corporate role and responsibility 402
7.6.3 Government role and responsibility 404
7.6.4 Personal role and responsibility 405
7.6.5 Ethical debate 406

7.6.6 Evidence 407
7.6.7 Influencers 409
7.6.8 Optimal default 411
7.6.9 Power 411
7.7 Multi-agency working 413
7.8 Summary 415

Section C: Discussion and conclusions 417

Chapter 8 Discussion of findings 417
8.0 Internal factors contributing to shaping the food and activity choices 418
8.1 External factors contributing to shaping the food and activity choices 329
8.2 Trends in eating patterns 433
8.3 Factors influencing physical activity 437
8.4 Policy context and professional practice 438

Chapter 9 Conclusions 450
9.0 Implications for the theory of public health 450
9.1 Implications for food policy 456
9.2 Implications for practice 460
9.3 Summary 464
9.4 Reflections on the doctoral process 465
9.5 Suggestions for future work and future research 471

Section D: Appendices 474

Appendix 1 Cover letter to ELC3 re: requested revisions to ethics application 474
Appendix 2 Data Protection Act personal details registration form 475
Appendix 3 Letter to ProVice Chancellor for research re: notification of NHS ethic approval 476
Appendix 4 Cover letter to ELC3 re: notice of substantial Amendments 477
Appendix 5 Pilot Paired-Interview Observation Guide 478
Appendix 6 Guide for note taking and transcription of interviews 479
Appendix 7 Consent forms 480
Appendix 8 Introductory letter for key informants 484
Appendix 9 Explanatory statements 485
Appendix 10 Interview topic guides 494
Appendix 11 Bangladeshi Healthy Food Basket Survey 521

References **524**

List of chapter tables

Page

Chapter 2

Table 2.1. Relationships of the 6 tastes to the 3 humours in the Ayurvedic system 32

Table 2.2. Quintile distribution of income for individuals by various family and household characteristics, United Kingdom 41

Chapter 3

Table 3.1. Ethnic specific values for waist circumference 55

Table 3.2. World prevalence all diabetes and IGT; adult population 57

Table 3.3. Ranges of population nutrient intake goals 61

Table 3.4. Putative life course risk factors for Type 2 diabetes 80

Table 3.5. The National Statistics Socio-economic Classification Analytic Classes 86

Chapter 4

Table 4.1 'Triggers' for Successful Government Regulation of Private Behaviour 126

Chapter 5

Table 5.1 Characteristics of Qualitative Methodology 133

Table 5.2 Summary of the data collection methods utilised 134

Table 5.3 Summary of research and interview questions arising from the literature 139

Table 5.4 Attribute properties for community interview participants 149

Table 5.5 Details of 1st generation men: Phase I pilot interviews 151

Table 5.6 Details of 1st generation women: Phase I pilot interviews 152

Table 5.7 Details of 2nd generation men: Phase I pilot interviews 152

Table 5.8 Details of 2nd generation women: Phase I pilot interviews 153

Table 5.9 Details of 1st generation men: phase II one-to-one interviews 154

Table 5.10 Details of 1st generation women: phase II one-to-one interviews 155

Table 5.11 Details of 2nd generation men: phase II one-to-one interviews 156

Table 5.12 Details of 2nd generation women: phase II one-to-one interviews 157

Table 5.13 Community participant interview topic guide themes 160

Table 5.14 Attribute properties for key informant interview participants 171

Table 5.15 Characteristics of the key informant interview participants 174

Chapter 6

Table 6.1 Theme Clusters: influences on food choices 187

Table 6.2	Theme Cluster: physiological influences on food choices	267
Table 6.3	Theme Clusters: dietary patterns	269
Table 6.4	Meal patterns of first generation male participants in Tower Hamlets, UK	277
Table 6.5	Meal patterns of first generation female participants in Tower Hamlets, UK	278
Table 6.6	Meal patterns of second generation male participants in Tower Hamlets, UK	278
Table 6.7	Meal patterns of second generation female participants in Tower Hamlets, UK	280
Table 6.8	Location of meals taken by the community participants	281
Table 6.9	Details of food choices – first generation men	282
Table 6.10	Details of food choices – first generation women	284
Table 6.11	Details of food choices – second generation men	286
Table 6.12	Details of food choices – second generation women	287

Chapter 7

Table 7.1	Theme clusters: professional practice	386
Table 7.2	Theme cluster: policy debates	400

List of chapter figures

Chapter 2

Figure 2.1.	The population of Great Britain and their ethnic origins.	35
Figure 2.2.	Ethnicity in Tower Hamlets, 2001	35

Chapter 3

Figure 3.1	The major diabetic complications	53
Figure 3.2	A summary timeline for the changing nutritional environment since Palaeolithic	62
Figure 3.3.	Stages of health, nutritional and demographic change	65
Figure 3.4.	Stages of the nutrition transition	67
Figure 3.5.	Evolutionary and modernising influences on Type 2 diabetes	78
Figure 3.6.	Distribution of real household disposable income, UK/GB	97

Chapter 4

Figure 4.1	The two food pyramids	114
Figure 4.2	Individualisation of Public Health	118
Figure 4.3	Food Choice - Why do people eat what they do?	119

Chapter 5

Figure 5.1	Summary of sources used for the systemised review	132
Figure 5.2	Timeline: Phase I	159
Figure 5.3	Timeline: Phase II interviews	165

Figure 5.4	Timeline: Phase III	165
Figure 5.5	Multiple Pass Recall Format	167
Figure 5.6	Four Dimensions of Key informant interviews based on the Beattie Model of Health Promotion (Beattie A 1991)	170
Figure 5.7	Food selection scheme	177
Figure 5.8	The eatwell plate	178

Chapter 6

Figure 6.1	System Map: sociocultural influences on food choice	227
Figure 6.2	System map: Psychological Influences on food choice	251
Figure 6.3	Environmental Influences on Food Choice	266
Figure 6.4	Summary of themes within the cluster dietary patterns	275
Figure 6.5	The physical activity environment	296

List of chapter graphs

Chapter 2

Graph 2.1	The proportion of the population in London in low income by ethnic group, over time	38
Graph 2.2	Average household size: by ethnic group of household reference person, April 2001, GB (National Statistics 2001)	39
Graph 2.3	Unemployment rates[1]: by ethnic group and sex, 2002/03, GB	40
Graph 2.4	The proportion of employees in London earning under £7.50 an hour, by ethnicity	42
Graph 2.5	Pupils achieving 5 or more A*-C at GCSE/GNVQ: by sex and ethnic group, 2004, England	44
Graph 2.6	Age standardised 'not good' health rates: by ethnic group and sex, April 2001, England & Wales	45

Chapter 5

Graph 5.1	Diabetes population age distribution in Tower Hamlets	144

List of chapter pictures

Chapter 2

Picture 2.1.	Map of Bangladesh	22
Picture 2.2.	Indian seamen (lascars), 1910	23

Chapter 3

Picture 3.1	World War II Poster: Food Is a Weapon, Don't Waste It (1941-1945)	82

[1] The unemployment rate is based on the International Labour Organisation (ILO) definition as a percentage of all economically active. Economic inactivity rates are expressed as a proportion of the working age population.

Acronyms

BME	**FFE**
Black and Minority Ethnic	Food For Education (programme)
BP	**FPG**
Blood Pressure	Fasting Plasma Glucose
CAP	**FSA**
Common Agricultural Policy	Food Standards Agency
CDC	**GB**
Centre for Disease Control	Great Britain
CHO	**GCSE**
Carbohydrate	General Certificate of Secondary Education
CPAG	**GDA**
Community Programme Action Group	Guideline Daily Amount
CPI	**GDP**
Consumer Price Index	Gross Domestic Product
CSD	**GI**
Commission on the Social Determinants of Health	Glycaemic Index
CSR	**GL**
Comprehensive Spending Review	Glycaemic Load
CVD	**GMO**
Cardiovascular Disease	Genetically Modified Organism
DALY	**GMS**
Disability Adjusted Life Year	General Medical Services
DINE	**GNP**
Dietary Instrument for Nutrition Education	Gross National Product
DNA	**HDL**
Deoxyribonucleic acid	High Density Lipoprotein
DoH	**HHS**
Department of Health	(Department of) Health and Human Services
DR-NCD	**HUDU**
Diet Related Non-Communicable Disease	Healthy Urban Development Unit
DWP	**IDDM**
Department of Work and Pensions	Insulin Dependent Diabetes Mellitus
EBM	**IDF**
Evidence Based Medicine	International Diabetes Federation
ESOL	**IES**
English for Speakers of other Languages	Institute of Employment Studies
EU	**IFG**
European Union	Impaired Fasting Glucose
EUFIC	**IFPRI**
European Food Information Council	International Food Policy Research Institute
FAO	**IHD**
Food and Agricultural Organisation	Ischaemic Heart Disease
FDI	**ILO**
Foreign Direct Investment	International Labour Organisation

IR	**PCT**
Insulin Resistance	Primary Care Trust
JHCI	**PPG**
Joint Health Claims Initiative	Post-Prandial Glucose
JRF	**QALY**
Joseph Rowntree Foundation	Quality Adjusted Life Year
MGRS	**QOF**
Multicentre Growth Reference Study	Quality Outcomes Framework
MODY	**R & D**
Maturity Onset Diabetes of the Young	Research and Development
MPR	**RAG**
Multiple Pass Recall	Research Advisory Group
NCD	**RGSC**
Non-Communicable Disease	Register General's Social Class
NELCRAD	**SAfH**
North East London Consortium for Research and Development	Social Action for Health
NFS	**SFA**
National Food Survey	Saturated fatty acid
NGO	**SNDP**
Non-Governmental Organisation	Sustainable Development Networking Project
NHMRC	**SUMEHR**
National Health and Medical Research Council	Support Unit for Minority Ethnic Health Research
NHS	**TG**
National Health Service	Triglyceride
NICE	**TLS**
National Institute of Clinical Excellence	Traffic Light System
NIDDK	**TUFA**
National Institute of Diabetes & Digestion & Kidney Diseases	Trans-unsaturated fatty acid
NIDDM	**UK**
Non-Insulin Dependent Diabetes Mellitus	United Kingdom
NRF	**UKPHA**
National Research Foundation	United Kingdom Public Health Association
NR-NCD	**UN**
Nutrition Related Non-Communicable Disease	United Nations
NSF	**US/A**
National Service Framework	United States / of America
NZ	**WHO**
New Zealand	World Health Organisation
OGTT	**WTO**
Oral Glucose Tolerance Test	World Trade Organisation
ONS	**WWII**
Office for National Statistics	World War II

Acknowledgements

Completion of this PhD would not have been possible without the support of many people.

I would like to express my deepest appreciation to my supervisors, Professor Martin Caraher and Professor Tim Lang for their inspiration, wisdom and vision and for always offering invaluable support and guidance without which completion of this thesis would not have been possible.

Thank you to Social Action for Health in Tower Hamlets, in particular Elizabeth Bayliss and Asma Akhter who committed their support throughout the project, as well as to the Bilingual Bangladeshi research facilitators Nurul Islam Ali and Nilufar Ahmed without whose knowledge and assistance this study would not have been successful. Thank you also to all the other people who provided their assistance in form of advice and suggestions which helped shape this research. Furthermore, thank you to all of the research participants who generously gave their time to participate in this research.

I acknowledge Barts and the London NHS Trust, Special Trustees of Barts and the Royal London Hospitals for granting me the PhD fellowship which enabled me to undertake this study. And thank you to my then manager Siobhan Bay, for the flexibility which made accepting this fellowship possible.

I would also like to express my love and say a special thank you to Paul McNair, my husband, who has always been there with the love, understanding and patience I needed to complete this thesis, and my wonderful family and friends for their encouragment and support given for the duration of my studies.

Declaration

I grant powers of discretion to the Librarian at City University London and allow this thesis to be copied in whole or in part without requiring special permission from the author. This permission covers only single copies made for study purposes, subject to normal conditions of acknowledgement.

Abstract

The prevalence of obesity and Type 2 diabetes is increasing world-wide being most evident in non-industrialised populations, and in deprived communities and minority ethnic groups, residing in the 'affluent west'. In the UK, the South Asian population, and in particular the Bangladeshi community, are up to six times more likely than the general population to have Type 2 diabetes. In Tower Hamlets East London, the prevalence is higher than both the London and England average; with over half of the cases being Bangladeshi. There is strong evidence that it is the interaction between an altered lifestyle, associated with economic development and urbanisation, which has triggered this massive increase in the prevalence of Type 2 diabetes. Genetic causes, and poor foetal and infant nutrition, are also seen as contributory factors.

Central to this thesis was the preposition that obesity and Type 2 diabetes are largely preventable and amenable to a wide range of public health prevention strategies. Too often a reductionist medical approach has been taken with the focus on individual behavioural change and few links to the culture of food and eating, or to the broader social, political, or economic context in which people live.

This trans-cultural study utilised qualitative approaches over three phases: paired interviews, in-depth semi-structured interviews and multiple pass dietary recall; drawing upon current social science and public health nutrition paradigms to investigate the contextual factors influencing food choices and physical activity, as perceived by the community itself and key informants, as well as the trend in eating patterns between two generations of British Bangladeshis.

Multiple drivers were revealed to be influencing food and activity choices with the community being significantly affected by urbanisation, being immersed in an obesogenic environment, the degree of acculturation into the British society and changes to the patriarchal structure of their community. The policy framework at the time of this research reflected an epistemological dilemma of a social issue continuing to be addressed with a largely clinical solution and the perception of a Government which despite outward appearances to the contrary, remained committed to the personalisation of the health agenda. The most recent change to the Coalition Government has seen this paradigm continuing, jarring sharply with the lived realities of the community and the overwhelming evidence that the obesity and diabetes epidemics cannot be dealt with by promoting behavioural change and individualised treatment alone.

The long lasting theory in Public Health that the social dimensions of health need to be addressed in conjunction with biological determinants has been confirmed with a complex web of interactions weaving together to influence the choices being made, highlighting the interconnectedness of diet and culture, and the relationship to a culture in transition. The vast array of factors have substantial implications for further development of food and public health policy for this community relating to the prevention diet related non-communicable diseases, as well as for professional practice.

Chapter 1 Introduction

The prevalence of Type 2 diabetes is increasing world-wide. The rise being particularly rapid in the developing populations where it is estimated by the International Diabetes Federation (IDF) that by 2025, three quarters of the world's 300 million adults with Type 2 diabetes will be located (International Diabetes Federation, 2003). This trend is also evident in deprived communities and minority ethnic groups residing in the 'affluent west', who suffer disproportionally from Type 2 diabetes (Zimmet PZ 1999;Zimmet PZ 2000).

In the UK there are over two million people with diabetes, around half of whom are living with the condition but have not yet been diagnosed (House of Commons 2004). The United Kingdom Parliament , Select Committee on Health third report notes that it has been projected that by 2025 diabetes could account for a quarter of the health budget (House of Commons 2004). The South Asian population, and in particular the Bangladeshi community, of both sexes, are up to six times more likely than the general population to have Type 2 diabetes (Department of Health 2001). Currently, some 20% of the South Asian population has diabetes and a further 25% are glucose-intolerant (a precursor condition for diabetes) (House of Commons 2004). In Tower Hamlets, East London, the prevalence of Type 2 diabetes is higher than the rest of the country, 4.4% versus 3.86% (Department of Public Health 2007;Diabetes UK 2008). The number of people diagnosed with diabetes according to the diabetes register being 10161[2] with Type 2 diabetes accounting for 93% of diagnoses in the Borough (Department of Public Health 2007). The large number of people in Tower Hamlets with Type 2 diabetes is a reflection of the large South Asian population which represents 36.6% of the total population, 91% of whom are Bangladeshi (Tower Hamlets Primary Care Trust 2002). Fifty four percent of all British Bangladeshis live in inner London and specifically Tower Hamlets (National Statistics: Census 2001).

There is strong evidence that it is the interaction between a lifestyle associated with economic development and urbanisation, which leads to improvements in both nutrition and life-span that has triggered this massive increase in the prevalence of Type 2 diabetes (Popkin BM 2002;Popkin BM & Gordon-Larsen P 2004). Genetic causes, and poor foetal and infant nutrition, are also seen as contributory factors (Hales CN & Barker DJP 1992). As the rise in prevalence of diabetes is so closely entwined with that of obesity, the term "diabesity" has been coined to describe the phenomenon (House of Commons 2004). It important to note however, that while it is not essential to be obese in order to develop diabetes, being overweight does rapidly increase the risks, and obesity itself is an indication of other issues, including lifestyle. The intergenerational effect of gestational diabetes occurring in mothers who had poor growth in childhood, but became obese in adulthood is an additional factor (Barker DJP 2004).

The development of Type 2 diabetes may be delayed or possibly prevented, with the main risk factors being related to lifestyle, for example, poor eating patterns and behaviours, and lack of

[2] Represents people on the diabetes registers and does not include undiagnosed cases

sufficient physical activity. There have been a number of large, promising, population-based studies, such as the Finnish Diabetes Prevention Study (Uusitupa M et al 2000), that have demonstrated the feasibility of preventing, or delaying, the onset of diabetes in overweight subjects with mild glucose intolerance (IGT) (World Health Organisation 2006). The rapid dietary changes, as a result of the nutrition transition and dietary acculturation, in many populations and migrant communities, has seen consistent changes from traditional diets to those characterised by high fat, salt and sugar intake more typical of a Western style diets (Caraher M, Coveney J and Lang T 2005). The nutrition transition affects populations as a consequence of industrialisation, urbanisation, economic development and market globalisation resulting in increased availability of cheap foods and reduced physical activity levels (Popkin BM & Gordon-Larsen P 2004). It is in the countries where the nutrition transition is most evident, that so has been the rise is the population of Type 2 diabetes. Dietary acculturation occurs at a community and individual level from exposure to a new culture, where individuals, to varying degrees, adopt the dietary and lifestyle patterns, as well as the socio-cultural practices, of the indigenous population (Shetty PS 2002). Food choice is a multidimensional, complex and dynamic process that varies considerably depending on factors such as: socio-economic and demographic, cultural including exposure to the British culture, psychosocial and environmental (Shepherd R 2002;Shepherd R 1999).

1.1 Why this approach

The notion that lifestyle related risk factors are amenable to public health prevention strategies is central to this thesis, although to date, the focus has largely been on individual dietary changes. The science of diet has been expressed, in practice, as a medical regimen to be followed. The individual approach of many dietary health promotion programmes, related to the prevention of chronic, non-communicable diseases have not produced the desired effect. There are few links to the culture of food and eating or to the political or economic structure of food production and marketing. That is, the broader issues such as how society determines who eats, what, when and how, and with what effects, are not broadly being addressed (Lang T 2005). Furthermore, many of the interventions have taken a top down approach of 'telling' the community what to do rather than engaging with the community and using their knowledge and skills to influence long term sustainable change.

Little information is available which assesses the adoption of *Westernised/ Urbanised* eating patterns, the maintenance of traditional diets, or both. Studies have not investigated the triggers for the dietary changes occurring in the British Bangladeshi population and, which of these are most strongly associated with the unhealthy dietary changes which can lead to the development of Type 2 diabetes. And, while there is a burgeoning literature on health beliefs and diabetes (within sociology of medicine), less clear is the impact of food beliefs and habits directly on food choice. Food choice within the sociology of health and medical literature is often seen as directly related to health, ignoring issues such as preferences and taste. Several constructs have been identified in relation to food classification for 1st generation British Bangladeshis with Type 2 diabetes, such as: the concept of strong and weak foods, "humoral"

concepts of health, and balance (Greenhalgh T et al. 1998). While these studies contribute to the understanding of dietary practices in the 1st generation Bangladeshi population with existing diabetes, further exploration of strategies to improve diet - for the prevention of diabetes - has been recognised as a national research priority in the Diabetes National Service Framework (Department of Health & Medical Research Council 2002).

This thesis considers the broader social, political, and economic conditions underpinning the rising prevalence of obesity and Type 2 diabetes in the UK Bangladeshi population. As such, it draws upon the disciplines of social science and public health nutrition. The research will move beyond the traditional, medically orientated, boundaries of nutrition science which takes an individualistic approach, with the sociological perspective enabling the development of knowledge that can enhance public health by addressing the wider determinants of nutrition-related health problems. The methodological history of this thesis will also be described, outlining the journey taken from a medically orientated, quantitative approach, to one investigating dietary choice, to taking on this social nutrition perspective.

1.2 Research Aims

This thesis explored through in-depth analysis, from a social, political and economic point of view, the rising rates of overweight and obesity and the emerging epidemic of Type 2 diabetes, among British Bangladeshi adults, living in Tower Hamlets East London. The contextual factors influencing food choices and physical activity, as perceived by the community itself and key stakeholders was investigated, whilst linking into the wider structural/material causes of health inequalities.

The three aims of this research were to:

1. Investigate the psychological, socio-cultural, physiological and environmental factors influencing food choices and physical activity;
2. Investigate the trend in eating and physical activity patterns between two generations of British Bangladeshis, specifically with reference to the development of Type 2 diabetes.
3. Draw on existing data to review the potential effect of wider determinants on health together with considering the broader policy context from the point of view of the community and stakeholder participants.

The specific research issues arising from chapters two to four are summarized in table 5.3 in the methodology chapter (five).

The semi-structured interview topic guides are also outlined in chapter five, as well as examples being provided in appendix ten. Demographic information collected from the participants' details is also outlined in chapter five.

This research will contribute to filling a gap in the literature with regard to the dietary patterns in 1st and 2nd generation healthy British Bangladeshis and provide further knowledge on the contextual factors that are influencing food choice and physical activity patterns, and instigate dietary and physical activity changes, in this community. The data generated will be used to inform public health prevention strategies and recommendations for food policy, which will be more appropriately targeted and address the needs and concerns of the community itself. This study will also impact upon the development of a culturally appropriate action plan for nutrition education, not solely in Tower Hamlets, but also in other areas of the UK, and enable health care professionals to change their practice to work in more effective ways with the community.

1.3 Structure of thesis

A number of literature reviews have been produced which will be presented in this paper and form the basis of chapters' two to four of the PhD thesis, setting out the academic and policy context in which the thesis is set. The second chapter provides an overview of Bangladesh – the country and the culture. A brief history of Bangladesh is presented, specifically relating to the issues of poverty and food insecurity. An introduction to the integral topics of Islam and the Halal food laws, together with the relationship between the food and health beliefs of this population, is then presented, before going on to discuss the push/pull factors involved in migration from Bangladesh to the UK and the impact this has had on foodways. The final section details the demographic characteristics of the British Bangladeshi population, as it sits within the UK population as a whole, and why research into the nutritional and generational issues in this Bangladeshi community is important.

The third chapter goes on to layout the major models of explanation for Type 2 diabetes, opening with a description of the aetiological subtypes of diabetes, then moving onto an account of the global prevalence of diabetes and the burden of disease. The models of explanation are broken into two broad groups: the biological determinants of disease, including evolutionary theories; and the social determinants of health, focusing on the theories behind how the inequalities in health are generated and maintained.

Chapter four details the policy relevance and context of this thesis. The medical and social models of public health nutrition policy are outlined, discussing the individualistic versus population-wide approaches. There will also be a discussion of the economic consequences of the burden of diabetes and in whose interest it is to help solve the problem. Both authoritative and negotiated views will be presented on an individual and collective basis, that is, the role of the state and the community. The research will then be set within the context how the food policy debate intersects with welfare policy, environmental policy and business regulation.

In chapter five the research methodology is detailed together with a presentation of the results from the Multiple Pass Dietary Recall (MPR) which was undertaken to triangulate the information from the community and key informant interviews, the findings of which have been set out in chapters six and seven. Chapter five begins by providing the epistemology of the

research, starting with the background to why research is being conducted and then drawing on the literature to outline why a social science, public health nutrition approach is being undertaken, for this research into the factors influencing food choices and the trend in eating patterns between two generations of British Bangladeshis. An argument is supplied for the chosen methods including looking at the issues relating to trans-cultural research. Due to the nature of qualitative research, consideration was also given to what the role of the researcher was in the research, reflecting on my own cultural, political and social perspective. The data from the MPR is presented at this point in the thesis as it is not part of the crux of the research but provides some context and contributes to the overall credibility of the data collected in the in-depth interviews presenting in the following chapters.

The main body of results of the research are presented in chapters six and seven. Chapter six presents the results from the interviews conducted with the Bangladeshi community whist chapter seven presents the results from the key informant interviews. It was decided to present the results in separate chapters to enable the opinions to be built into a wider picture and better enable the later examination of the relationships between them. The data presented in both chapters is descriptive and accompanied by illustrative quotes to capture the essence on the theme being discussed in the voice of the participants.

The discussion in chapter eight brings together the community and key informant interviews to discuss the findings, set out in light of the research aims and research questions. Finally, chapter nine presents the conclusions of the thesis; the implications for the theory of public health and food policy; implications for practice for both professionals and other local actors before finally reflecting on the doctoral process.

Section A: Background to the study

Chapter 2 Bangladesh – Country and Culture

The Bangladeshi community in the UK is unique; the vast majority having come from the rural Sylhet district in Bangladesh, with the largest community now living in the East End of London. This chapter provides an overview of Bangladesh – the country and the culture; firstly presenting a brief history of Bangladesh, specifically relating to the issues of poverty and food insecurity, before moving to an introduction of the integral topics of Islam and the Halal food laws, together with the relationship between the food and health beliefs of this population. The push and pull factors involved in migration from Bangladesh to the UK is also described together with details of the distinctive demographic characteristics of the British Bangladeshi population, as it sits within the UK population as a whole, the impact this has had on foodways and why research into the nutritional and generational issues in this community is important.

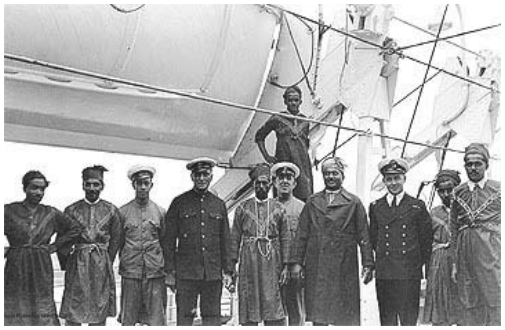
2.0 Brief background to Bangladesh

Bangladesh is situated in the northwest part of South Asia, bordered by India on the east, west and north and by the Bay of Bengal on the south; see picture 2.1. The land is a delta with a network of numerous rivers and canals. The total farm area comprises of approximately sixty two percent of the total geographical area, forests account for fifteen percent, perennial water eleven percent and urban area only one percent. The landscape is characterized by small pieces of arable fields (Bangladesh High Commission UK 2003). The capital and largest city of Bangladesh is Dhaka and Chittagong is the main seaport. Bangladesh, as such, is a relatively 'new country', akin to Pakistan and Sri Lanka which were all previously part of India, Pakistan becoming a nation in 1947, Sri Lanka following in 1948 and in 1971 Bangladesh split from Pakistan (Collingham L 2005).



Picture 2.1. Map of Bangladesh (Bangladesh Embassy 2011)

Of the Bangladeshi's who immigrated to the UK, up to 95%, come from a network of villages and rural localities in the Sylhet District of north eastern Bangladesh and in respect of social origins were mainly drawn from peasant farming families (Eade J 1989;Home Affairs Committee 1986;Lawson S & Sachdev I 2004;Phillipson C, Ahmed N, & Latimer J 2003). The Sylhet district, known as the "land of two leaves and a bud" (Bangladesh High Commission UK 2003), is predominantly Muslim (Collingham L 2005) and has a long tradition of immigration (Lawson S & Sachdev I 2004), the process beginning in the 19th century and first half of the 20th century with the arrival of Indian seamen (*lascars*), mostly from East Bengal (Bangladesh), particularly Chittagong and Sylhet (Kershen AJ 2002;Moving Here: Migration histories 2006), employed on Britain's mercantile fleet (Phillipson C, Ahmed N, & Latimer J 2003). A Lascar has been officially defined as *"an Asiatic seaman, native of the British Empire" (*Lascars*.co.uk 3 A.D.)* . For the East India Company, lascars were apparently considered 'the cheap option', being paid only 15% of the rates paid to European sailors and it is reported that many were often mistreated (Connections: Hidden British history 2006). A number of the seamen 'jumped ship' following arriving in London's docks, or were abandoned without wages by their employers (Visit East London 2005), settling mostly around Spitalfields, East London (Dench G, Gavron K, & Young M 2006;Eade J & Garbin D 2002). Some lived with or married local white women and established a home, usually in areas close to the ports from which they had embarked (Eade J. 1997). These men mainly worked in restaurants and cafes; their male kin who followed found employment in the local garment industry and factories in both London and Northern England (Eade J & Garbin D 2002).



Picture 2.2 Indian seamen (lascars), 1910 (Moving Here: Migration histories 2006)

The British Bangladeshi population has described itself in a number of ways over the past 60 years as a result of being initially part of India until the partition in 1947, then East Pakistan until the war of independence. Terms used have been: Indian, Pakistani, Bengali, Bangladeshi, as well as Sylheti due to the District they were drawn from (Dench G, Gavron K, & Young M 2006). Today, British Bangladeshi or Bangladeshi is used, which is more accurate than Bengali as it also describes Indians from West Bengal (Dench G, Gavron K, & Young M 2006). The community in the UK grew quickly during the 1950's to the 1970's when there was a demand for labour in Britain following World War II (WWII), together with poverty and famine in Bangladesh (Home Affairs Committee 1986;Lawson S & Sachdev I 2004). From 1943-1944, a famine in Bengal killed an estimated 3.5 million people (Nawani NP 1994) although the Famine Inquiry Commission (Famine Inquiry Commission 1945) put the figure at 1.4 million but did note that "as

many as 30% of the people remained hungry" (Nawani NP 1994). There is debate about whether this famine was 'man-made', however the argument is compelling, as detailed by Amartya Sen (Sen A 1984). In the mid-19th century there where severe Indian famines together with the export of grain, which was permitted on the grounds of non-intervention in trade (Polya G 2005). This continued into the 20th century. Strategic steps were taken by the British authority following the entry of Japan into WWII, when South East Asia and Burma were captured. As a result of the loss in rice from Burma, and to make up for the deficiencies in Indian production, food was exported from Bengal to provide for soldiers, workers in industrial cities such as Calcutta and for export to other parts of the Empire, as well as preventing access to these supplies of rice by the Japanese in case they were to invade. This loss of rice from Burma together with ineffective government controls on hoarding and profiteering led to enormous price rises. The inability of authorities to keep rice prices down to affordable levels was a major feature of the famine. To further exacerbate the crisis there was seizure or destruction of tens of thousands of boats which were crucial for fishing and obtaining and distributing food in a waterway-rich country. Those Bengalis having to purchase food (e.g. landless labourers) and fishermen, deprived of access to fishing grounds and hence food and cash for rice, were amongst the most severely affected (Polya G 2005). There are some opposing views however; it has been argued that rather being the result of the man-made interventions detailed, the famine was due to a reduction in the rice yield, causing serious food shortage but this view is not supported (Tauger M 2003).

2.1 Food security in Bangladesh

"*Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life*." (World Food Summit 1996).

Food security and nutritional well-being in Bangladesh, while improving, remains a major issue, representing one of the highest rates of malnutrition in the world (FAO 1999). According to the latest FAO figures on food security (FAO 2008) 27% (40.1 million people) of the Bangladeshi population is classified as being undernourished in the period 2003-05, a reduction from 36% (41.6 million people) in the period from 1990-1992. Presently, Bangladesh also still features in the FAO's Global Information and Early Warning System (GIEWS) list of countries experiencing "severe localized food insecurity" following past flooding and the impact of cyclone Sydr, as well as on the list of countries severely affected by high food prices(FAO 2008). Women and children are particularly vulnerable to the nutritional effects of high food prices, as they are more likely to suffer from micronutrient deficiencies when driven to consume less diversified daily diets. For children under five years of age, the rates of malnutrition jump to 48% (FAO 2008), reduced from 66% in 1990 (FAO 2005). Furthermore, 43% of children are stunted, with a clear association being seen between undernourishment and prevalence of undernutrition (FAO 2008). This is exacerbated by inappropriate infant and young child-feeding practices (breastfeeding and complementary feeding) which have been identified as a major cause of malnutrition (Faruque ASG et al. 2008). According to the Multiple Indicators Cluster Survey 2006, only 37% of Bangladeshi children aged less than 6 months are exclusively breastfed.

Complementary breastfeeding (breast milk and solid or semi-solid foods) rate is 52% at age 6-9 months and 95% at age 12-15 months (BBS-UNICEF 2007).

All administrative divisions in Bangladesh are affected by child malnutrition although differences can be seen in the prevalence of the three anthropometric indicators. Sylhet, where there is a large number of peasant farming families, showed the highest prevalence of underweight (64%), the lowest being in Khulna (49.8%). Sylhet also showed the highest prevalence of both stunting (61.4%) and wasting (20.9%) (FAO 1999). The situation for women has shown little improvement over the last 20 years, with over 50% of the population as a whole being malnourished, and as with the children, the Sylhet administrative division had the highest prevalence of 59.6%; lowest 47.6% in Khulna (FAO 1999). It has been recognized in many countries generally, that there are differences in food security between urban and rural areas. According to World Bank indicators (World Bank 2002), in Bangladesh, poverty affects almost three times more people in rural compared to urban areas (39.6% and 14.3% respectively). The maternal and child nutrition survey in Bangladesh found in rural areas there were 42.2% underweight, 48.8% stunted, 15.1% wasted and 1.3% overweight, whilst in urban areas there were 29.9% underweight, 35.9% stunted, 12.2% wasted and 1.9% overweight (Bangladesh Bureau of Statistics 2007). The proposed WHO criteria for measuring the level of food security as: “a prevalence of low body mass index of more than 40% is indicative of a ‘critical’ level of food insecurity”; puts 45% of rural Bangladeshi women into this category (Gill GJ 2003). In the Sylhet District, 39.1% of non-pregnant adult mothers in rural areas have been shown to have malnutrition(12.2% overweight), with 19.5% (41.5% overweight) in urban areas (Bangladesh Bureau of Statistics 2007). Food security has been linked to land ownership in rural areas, with the majority of poor households, often being headed by women, being functionally landless (Ahmed AU & del Ninno C 2002;FAO 1999). In Bangladesh, most farmers have limited access to land, often only through tenure arrangements such as sharecropping and therefore in terms of the percentage loss in income, the poorest households are hit hardest by rising food prices (FAO 2008). Food security, in both urban and rural areas, has also been linked to the stability of employment/income sources, food distribution, storage and marketing (FAO 1999).

Poverty has also been responsible for keeping generations of families sending their children to school, resulting in a perpetual cycle where the children’s future is most likely going to echo that of their families (Ahmed AU & del Ninno C 2002). These children, from birth, are deprived of the basic nutritional requirements to learn well, restricting the pathway which may lead them out of poverty (Ahmed AU & del Ninno C 2002). The World Bank and the World Food Programme provide much of the funding for school feeding programmes in an attempt to tackle this issue. In Bangladesh specifically, in order to try and improve this situation, the Bangladeshi Government launched the first-ever Food for Education Programme (FFE) in 1993, providing a ration of free monthly food grains (rice or wheat) to poor families to send their children to primary school. The International Food Policy Institute (IFPRI) has been working with the government of Bangladesh to design, implement, monitor, and evaluate the Food for Education program (the world’s first) (IFPRI 2006). The goal of the programme is to increase enrolment, promote attendance, reduce drop-out rates and improve the overall quality of education (Ahmed

AU & del Ninno C 2002) thereby reducing current and future poverty. Twenty seven percent of all primary schools in Bangladesh were covered by the FFE programme by the year 2000, with 40 percent of the 5.2 million students enrolled in the programme receiving food grains (Ahmed AU & del Ninno C 2002) . The programme has had mixed results to date. With respect to the food distribution system there has been some degree of 'mis-targeting'. While sixty-three percent of households in the poorest quintile are programme beneficiaries, so are approximately thirty-five percent in the richest two quintiles. And, overall whilst eighty-one percent of primary school age children are attending primary school, with some disparity being seen between male and female attendance ratio (BBS-UNICEF 2007), there are still households with primary school aged children that are not attending schools, many of these in the extremely poor category, with the children either directly or indirectly contributing to the family income. For these families the cost of sending the children to school is higher than any expected income transfers from the FFE programme. There have also been some issues with the distribution system as a result of involving the private sector, who can be motivated to divert the subsidized or free foods away from the intended beneficiaries. The FFE programme therefore needs to make modifications to the system in order to reduce leakage and ensure more equitable distribution of the food grains to those with the greatest need. When looking specifically at the effect of the programme on actual food consumption, again, while there have been some improvements, the issue of food insecurity remains for many of the poorest. There is increased wheat consumption for FFE beneficiaries compared to other groups, this however is more a result of the fact that the ration tends to be mostly wheat (Ahmed AU & del Ninno C 2002). Of further note though, is that wheat is considered an inferior good in Bangladesh where rice is the main staple food (FAO 1999). A more tangible increase is in the consumption of calories, with an increase being seen in FFE beneficiary families compared to non-beneficiary families who also do not send their children to school. Caloric consumption has been shown to be very responsive to changes in family income, but twenty percent of the poorest households continue to have inadequate daily caloric intake and two-thirds of households in the poorest quintile have caloric deficiencies for both FFE and non-FFE unions. Positively, the average nutritional status for pre-schoolers has been found the be improved in FFE beneficiaries than for children from non-beneficiary families and not attending school, but still not as good as the non-beneficiary families who are also able to attend an FFE school. For women of child-bearing age (15-49 years) the programme unfortunately has not seen any notable improvements in nutritional status. (Ahmed AU & del Ninno C 2002). So it would seem that while the FFE programme is a positive step forward by the Bangladeshi government, changes are required in order to ensure the programme is benefiting those most in need, those who are most vulnerable to the seasonal availability of food, and the negative effects of price increases. Those, who at this stage, are still likely to continue in the perpetual cycle of poverty and ill-health.

To date much of the work around food insecurity has centered on the distressing issue of hunger. Food security however relates not only to the supply and access of food but also to its *utilisation*. The later referring to the whether a person is able to have a diet which is adequate in micronutrients in order to be able to adequately absorb macronutrients (Gill GJ et al. 2003). This in turn may be determined by factors such as cooking practices, beliefs, eating habits, food

hygiene, contamination of drinking water, poor sanitation and health (Gill GJ, Farrington J, Anderson E, Luttrell C, Conway T, Saxena NC, & Slater R 2003). Accordingly, the qualitative aspects of food security also need to be considered, that is, achieving nutritional balance (Gill GJ 2003). Diets in low-income countries are typically rich in cereals, roots and tubers, while consuming less meat, fewer dairy products, smaller amounts of oils and fats, and fewer fruits and vegetables; foods which are usually the most expensive, but also the most concentrated sources of many nutrients (FAO 2008). Meat and dairy products for example are rich in high-quality proteins and micronutrients, such as iron, zinc and vitamin A, whilst fruits and vegetables contain vitamin A precursors and oils are rich in dietary energy.

In Bangladesh, 82.5% of daily energy is obtained from cereals, with 81% coming from rice alone, making the diet nutritionally unbalanced (FAO 1996). Fish and pulses are traditionally two of the most important non-cereal products in Bangladesh (Gill GJ 2003). The dominance of rice and fish in the Bangladeshi diet can be illustrated by the old proverb: "*fish and rice makes a Bengali*"; it is an essential and irreplaceable food in the rural Bangladeshi diet, being an important source of protein as well as vitamin A, and calcium, depending on the fish species (Roos N, Islam MM, & Thilsted SH 2003). Depletion in fish stocks however has led to a per capita fish consumption fall from 1970 to the late 1990's of 11kg down to 7.5kg (Gill GJ 2003). Per capita availability of pulses has also reduced by 27% between 1987/8 and 1998/9 (Bangladesh Bureau of statistics 2003). Due to the doubling of price of the most important pulse (lentil) from the mid-1980's to the end of the 1990's, access to the pulses has fallen even more rapidly than availability for the poor (Gill GJ 2003). Fruit and vegetable intake is also lacking. Current vegetable production in Bangladesh is considerably below the domestic requirement and productivity has remained stagnant (Mirza H A 2000). The national consumption is estimated to be 50-70g/head/day as against the nutritional requirement of 200g/head/day (Mirza H A 2000). Fruit production has also remained static (Mirza H A 2000). Only 11.5kg/head/year of fruit is consumed which is approximately one quarter of the fruit consumption in Europe, and one-ninth that of Australia, Hong Kong and Taiwan (Mirza H A 2000). As is seen with food security in general, differences are seen between urban and rural areas with respect to these food consumption patterns. In the urban areas, there is an increased consumption of pulses, meat, milk, fish, oils and fats, and reduced intake of cereals, compared to the rural areas (FAO 1999). Those in the urban areas therefore overall have higher protein consumption and energy content of their diets. Reduced prices, and accordingly availability of cheap foods, has led to the shift in the diet towards increasing total fat content and saturated fat content, and increasing sugary, salty, processed foods. This process, often termed the Nutrition Transition, is being seen in country after country (Popkin BM 2001c) and will be discussed in chapter 2. In India and other parts of South Asia, it is the increased consumption of dairy product, as well as added sugar consumption, which are central (Popkin BM 2001c). Furthermore the vegetable ghee, a major source of edible oil in India, has been found to have very high trans-fatty acid levels of about 50%. Potentially this is also the case for Bangladesh although data is not available.

For women and girls, opportunities in education, skill development, employment and participation in the overall development process have been limited by traditional socio-cultural practices (Sustainable Development Networking Project (SDNP): Bangladesh 1998). This lack of opportunities, together with an intra-household discrimination in food distribution, are further factors contributing to poor health. The discrimination against females in intra-household food allocation, as in other matters, is thought to be wide spread and extreme in South Asia (DeRose L, Messer E, & Millman S 1998). The pro-male discrimination in food distribution is now attempting to be addressed by the Bangladeshi government in their current five year plan which acknowledges that the "nutritional status of women and girls is marked by sharp differences with that of men and boys" (Government of Bangladesh 1998) . In the previous plan's however there has been little success with women's development issues not being made an integral part of the process of formulating, implementing and evaluating development programmes across all sectors (Sustainable Development Networking Project (SDNP): Bangladesh 1998). Also, the evaluation of the FFE programme, by the International Food Policy Research Institute (IFPRI) (Ahmed AU & del Ninno C 2002), has shown no improvement in the plight of women who head the majority of the poorest households in both FFE and non-FFE unions. Even if females are able to meet the energy requirements in terms of macronutrient intake, they often have poor diets due to inadequate micronutrient intake, resulting from a restriction of the relatively more expensive foods such as animal foods and fruits (Messer N 1997). Micronutrient deficiencies that result in nutritional anemia in children and women and neural tube defects in newborns remain a public health problem in Bangladesh (UNICEF & Unite for children 2009). Furthermore, the increased requirements during pregnancy and lactation are difficult to attain due to the inaccessibility and cultural restraints (FAO 1999). While it is not necessary *per se* to consume animal foods in order to have a nutritionally balanced diet, the absence of such high biological value protein (and iron) makes attaining such a diet difficult to achieve, even for those with good access, requiring careful planning to ensure it is well balanced and includes a wide variety of foods to meet nutritional needs. And, as the diet is vegetarian as a result of circumstance and cultural practices, rather than personal choice, achieving a nutritionally balanced diet is unlikely (FAO 1996). Even for those able to make choices within a vegetarian diet, nutrients that are potentially lacking include: protein, iron, zinc, vitamin B12 and calcium, the later two, especially for vegan diets. The need for B12 in particular, available only in animal foods, can only be met via supplementation if there is no or negligible intake of animal foods. Foods which it would be desirable to include daily are: eggs, dried beans, lentils, nuts or seeds; high fibre bread and cereal foods; dairy foods or calcium enriched soy foods; a wide variety of fruits and vegetables and small amounts of poly-unsaturated or mono-unsaturated fats (ADA 2003).

Another significant issue that should at least be mentioned when considering the 'need' to increase access to animal products is that of sustainability and efficiency. While much is made of the need to increase the amount of animal products available to feed the growing populations globally, it is in fact more efficient to use cropland to grow food for humans to eat rather than to feed animals (Singer P & Mason J 2006). Raising beef for example requires approximately 26kg grain to produce 1kg beef and for chicken, the grain-to-meat ration is 6kg:1kg, including

bones and water (Singer P & Mason J 2006). In relation to protein, rather than total calories alone, it remains more efficient if soya beans are grown. It has been concluded by some therefore that feeding the world by producing milk, meat and eggs, based on feeding the animals crops grown for this purpose is far less efficient and produces less food than if we produced crops to feed our population on that land instead (Singer P & Mason J 2006;Smil V 2002). As noted above though, achieving nutritional balance would likely continue to remain problematic the most vulnerable.

Moving on from the issue of food insecurity in Bangladesh, the following section provides further insight into the diet as it relates specifically to the dominant religion in Bangladesh – Islam - and traditional health beliefs. Beliefs embedded in the food laws within the *Qur'an* and Hadith Narratives, and the concept of dietary balance relates not to the Western scientific classification but is rather imbedded in the epistemological foundations of the culture.

2.2 Religion – Islam and Halal Food Laws

"*Religion is fundamentally a belief system which includes the myths that explain the social and religious order and the rituals through which the members of the religious community carry out their beliefs and act out the myths to explain the unknown*" (Freidl J & Pfeiffer JE 1977).

In Bangladesh, as well as the UK, the Bangladeshi population are considered a homogeneous group in respect to religious beliefs however practices and interpretation differ. The 2001 decennial population census in Bangaldesh found that the majority of the population were Muslim, 89.6% while that of Hindu, Buddhist and Christian was 9.3%, 0.6% and 0.3% respectively (Bangladesh Bureau of statistics 2009), while in the UK 92% of the population reported being Muslim, the majority of the remainder not stating their religion, according to the 2001 Census (National Statistics 2001). The Bangladeshi population in the UK represents 0.5% of the total and 6.1% of the non-white population (National Statistics 2001).

Islam means 'submission to the will of *Allah* (god)', with a Muslim being one who makes that submission (Voll JO 2006). Along with Judaism and Christianity, Islam is a West Semitic monotheistic faith (Williams R The Archbishop of Canterbury 2007). Islam originated in the 7th century, in the Arabian cities of Mecca and then Medina (Voll JO 2006); although not a rebel branch of either Judaism or Christianity, it unequivocally claimed to be a continuation of, and replacement for them, echoing many of their principles (Voll JO 2006). As Islam falls into the same group as Judaism and Christianity, it has been classified by some as a 'Western' religion (Fieldhouse P 1995). Sunni Muslims are the largest group in Islam and form the majority in the Bangladeshi population in Tower Hamlets (Phillipson C, Ahmed N, & Latimer J 2003). British Bangladeshis, together with Pakistanis are the least likely group(s) to have no religious affiliation with only around 1 in 200 (0.005%) Bangladeshis and Pakistanis reporting to have no religion compared to 15 per cent of the British population as a whole (National Statistics 2001).

Food practices can be divided into those which are prohibited and those in which special foods are required for specific situations for example Ramadan, the festival of Id-ul-Fitr and Id-ul-azha or bakra Id. The *Qur'an* contains specific directions concerning food practices as does the Jewish Torah and the Hindu Code of Manu (Fieldhouse P 1995).The Surah, a chapter of the *Qur'an*, contains dietary regulations, while the Hadith, where the authenticated sayings and actions of the prophet Mohammed are recorded, contains hundreds of reports of what Mohammed ate, gave to others or said about food on various occasions (Fieldhouse P 1995). In a study by Chowdhury et al (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000) into food beliefs of first generation Bangladeshis with diabetes, they found that all of the participants followed the Islamic norms regarding food, for example avoiding pig products, wine and 'animal fat' in manufactured foods, and eating *halal* meat. The indulgence in such prohibited foods was considered "an act of feeble faith, if not outright faithlessness". Conversely though, the *Qur'an* also states that the virtuous could look forward to 'eating and drinking with relish' in the gardens of paradise (Peterson T 1980), in other words, they will attain delayed gratification.

Religious norms and practices relating to food in the Bangladeshi community are derived from halal dietary laws found in the *Quran* and the *Sunna*. Islamic law, or Shari'ah, is the interpretation of Muslim scholars. Aside from the *Quran* and the *Sunna*, there are two other forms of jurisprudence to determine the permissibility of foods in a contemporary situation, for example, the issue of genetically modified foods. These two sources of Islamic law are: *Ljma* which is a consensus of legal opinion and *Qiyas* which is reasoning by analogy (Regenstein J M, Chaudry M M, & Regenstein C E 2003). Halal dietary law divides foods into those that are permitted – *halal* – and those that are prohibited – *haram*. Foods that are deemed either questionable or detestable are classified as *makrooh*. All things created by Allah are permitted with the exception of the following:

- Prohibited animals e.g. Pigs, boar, swine, carrion and carnivorous animals
- Blood
- Meat of animals that were not slaughtered appropriately
- Food that has been dedicated to somebody other than Allah
- Alcohol and other intoxicants
- Inappropriately used drugs

(Regenstein J M, Chaudry M M, & Regenstein C E 2003)

Blood is prohibited from both permitted and non-permitted animals, and includes both liquid blood and products made from blood. When an animal is slaughtered it must be done by a mentally competent adult Muslim, the name of *Allah* must be invoked at the same time, and the done in a method so to cause rapid bleeding with the quickest possible death. (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000;Regenstein J M, Chaudry M M, & Regenstein C E 2003).

Fish and seafood are controversial amongst the various denominations of Muslims. Shia Muslims accept fish with scales as *halal* but others accept anything that lives in water 'all of the

time'; this later distinction likely to be more relevant to the Bangladeshi population, being mostly Sunni. As a consequence, while animal such as lobsters and prawns may be considered *makrooh* by some Muslims are more likely to be considered *halal* by the Bangladeshi Muslim population. The status of fish as *halal*, as well as the relative ease of access compared to other meat sources, may contribute to the dominance of fish in the Bangladeshi diet, as discussed in the previous section. Insects are generally considered neutral with the exception of locust which is *halal* as the Messenger of Allah clearly permitted its consumption, in the Hadith of Sunan Abu Dawud and Musnad Ahmad. Finally eggs and milk from permitted animals are also *halal*. (Regenstein J M, Chaudry M M, & Regenstein C E 2003).

A further consideration regarding food is the requirements from sunrise to sunset during the Islamic month of *Ramadan*. Restraint from eating food and drinking water is required during this period together with restraining from anger, undertaking good deeds, exercising self discipline and generally preparing to be a good Muslim (Nomani MZA 2005). There are exemptions for those who are ill or infirmed, and for pregnant or lactating women (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000). The end of Ramadan is signalled by the sighting of the new moon and is celebrated with prayer and feasting in a festival called Id-ul-Fitr. Id is associated with the serving of sweet foods and is commonly known as 'sweet Id'. Sawaiyan is a fine vermicelli, boiled and served with milk and sugar. It epitomises sweet dishes, food sharing, equality and hospitality for guests, and is the symbol of the festival (Murphy CPH 1986). Id-ul-azha or bakra Id is celebrated almost two months later when the annual pilgrimage to Mecca is underway. Id-ul-azha features a blood sacrifice, called qurbani – a commemoration of Abraham's willingness to sacrifice his son at God's command. The sacrifice fulfils a religious obligation and gives the person in whose name it is made, sawab, or meritorious reward from God. Liver, lung and heart are the first edible parts removed from the animal and are used to prepare kaleji which can be used to break the fast which orthodox Muslims keep on this day prior to the sacrifices (Fieldhouse P 1995). Islamic prescription require that sacrificial meat be divided into three equal portions: one for the family, one for friends, relatives and neighbours, and on for charity (Murphy CPH 1986) .

2.3 Health beliefs – relationship between food and health

"*Minority groups, whether they be defined in social, cultural or ethnic terms may hold values which differ from those of the dominant culture and this is reflected in their beliefs, attitudes and practices related to food*" (Fieldhouse P 1995)

The binary classification of foods into *hot* and *cold*, is deeply embedded in the epistemological foundations of many traditional cultures, and can provide a conceptual framework for articulating the complex linkages between diet and health (Beardsworth A & Keil T 1997). This belief system is multifaceted and does not reflect that preferred by dominant Western scientific medicine which generally prescribes to 'evidence based medicine', and classifies food into groups representing the main macronutrient composition: carbohydrate, protein, fat and alcohol. Furthermore, the ambivalence of many Western medical practitioners towards diet has "resulted

in patients disassociating it from the curative process engaged by 'English' medicine" (Nichter M 1989). Western medical practitioners are deemed to understand technical cures and medicines, but not health and dietary needs, therefore are not seen as good sources to get advice about preventative or promotive health; a perception which has important public health implications (Nichter M 1989). Western culture however has seen a rise in the use of alternative therapies and over the counter medication, to the extent that there is a drive to make complimentary therapies widely available on the NHS, in hospitals, community clinics or GP surgeries.

Hot and *cold* beliefs are held by many people in the Bangladeshi community, together with people from India and Pakistan. This concept is thought to originate from the Ancient Hindu medical system of Ayurveda and has been influential in medical practices since ancient times (Hill SE 1990;Nagpal N 2003). Ayurveda signifies the entire corpus of the medical wisdom, the first component *ayuh* in the word signifies life" (jivitam) and the other component *veda* refers to 'a branch of learning', Ayurveda would thus mean "the science or art of living" (Nagpal N 2003;Ramachandra Rao 1985). The Unani medical system is also thought to have influenced popular thinking. The Unani system which is derived from the Ancient Greek humoral theory, was developed and adopted in areas that were under Muslim rule, for example Gujarat, after assimilating medical knowledge from India and Persia (Nagpal N 2003;Storer J 1977). As with Ayurveda, the Unani system includes *hot* and *cold* classification, however the two classifications are not the same (Storer J 1977). Generally, foods with a pungent, acidic or salty taste are considered 'hot, while those with a sweet, astringent or bitter taste, 'cold' (Storer J 1977). The basic concept of the Ayurveda and Unani medical systems "is maintenance of a dynamic balance in the body between four fluids, viz. blood (dam), phlegm (balgam), yellow bile (safra), and black bile (sauda)" (Nagpal N 2003). Table 2.1 shows the relationship of the six tastes and the three humours in the Ayurvedic system. In day-to-day life, little attention tends to be paid to the 'hot' and 'cold' classification of foods with their significance more so being felt during vulnerable physiological stages of life such as pregnancy, lactation or illness (Storer J 1977). Adherence to beliefs also tends to be stronger in the rural villages of Bangladesh and among the non-literate poor (Fieldhouse P 1995). Modern-day Asian beliefs regarding *hot* and *cold* vary between countries and regions.

Humour		**Tastes**
Air	Increased by:	Astringent; bitter; pungent
	Decreased by:	Salty; sweet; sour
Fire	Increased by:	Pungent; salty; sour
	Decreased by:	Astringent; bitter; sweet
Water	Increased by:	Salty; sour; sweet
	Decreased by:	Astringent; bitter; pungent

Table 2.1. Relationships of the 6 tastes to the 3 humours in the Ayurvedic system (Fieldhouse P 1995)

In Bangladesh specifically, foods are classified as *strength giving, blood-producing, hot* or *cold, nirdosh-nirog,* and *bitter.* Good health means having enough blood, a source of strength and energy. Fish is blood producing, while ghee and milk top the list of strength giving foods. Bengalis believe that one cannot feel strong without rice (Rizvi N 1986), which may account for rice being the main staple food in this society – their 'cultural superfood' (Fieldhouse P 1995). Furthermore, this staple food ties people to their land in that they believe the local qualities of the soil and water in which it is grown is absorbed into the crop; ingestion thereby imparts these qualities into those who eat it providing strength (Collingham L 2005). Nirdosh means harmless and nirog means disease free, therefore these foods are neutral, and do not cause disease or an imbalance in the humours. Most non-leafy green veggies are nirdosh, while bitter tasting veggies, keep the blood clean and protect from skin infection & intestinal worms. Neither nirdosh nor nirog foods however are categorised as being nutritious. (Fieldhouse P 1995)

Correct diet and digestion, together with a power of self preservation are seen as instrumental to the maintenance of humoral balance (Nagpal N 2003). Disease is thought to be caused by an imbalance in the humors. Many of the spices and seasonings used in Indian food are believed to have therapeutic qualities, for example turmeric is considered to have an antiseptic effect and Lahsun, Asafoetida, cardamom, ginger and clove are regarded as good for digestions and combating the bacterial effects often associated with food and the tropics (Nagpal N 2003).

In community work undertaken with 1st generation Bangladeshis within the Borough of Tower Hamlets, East London, the two interrelated and intersecting binary classification systems: 'strong'/'weak' and 'digestible'/'indigestible', were found to be prominent in food choices, rather than the 'hot'/'cold' classification *per se* prevalent elsewhere in South Asia (Chowdhury AM, Helman C, & Greenhalgh T 2000). Further exploration of foodways and the impact of migration on British Bangladeshis will be undertaken in section 2.5 following on from the discussion of the factors influencing migration to the UK and the unique characteristics of this community.

2.4 Migration to the UK

International migration can be seen as a process in which there is a balance between the push and pull factors; push factors frequently being economic or political, and pull factors, prospects and opportunities (Hill SE 1990;Royal College of Nursing 2005). Regardless of reasons though, migration can involve a great deal of stress and social disruption, with changes in economic position and opportunity, and moving to an unknown, unfamiliar and potentially hostile environment (Nazroo JY 2001). Religious observances, beliefs and family structures may come under strain, with upheaval from a rural peasant way of life to an industrial society, as happened with the Bangladeshi community, making adaptation a difficult process (Hillier S 1991). Undoubtedly, all of these factors will adversely affect the health of migrant populations.

Initially it was almost entirely men who migrated to the UK with the joint intention of supporting their families back in Bangladesh and to eventually return home and be self-sufficient, 'rich men of high status' (Home Affairs Committee 1986;Kershen AJ 2002). For the majority of these men

however, enough money was not saved and 'the myth of return' began to fade, consequently from the late 1960's their families began to join them (Eade J & Garbin D 2002;Home Affairs Committee 1986). Moreover, this idea that they were predominantly migrant workers and therefore not intending to settle is one of the reasons why the community has ended up being isolated from the remainder of the British population (Dench G, Gavron K, & Young M 2006). Many women were 'sent for' by their husbands in Tower Hamlets coming to the UK as members of transnational communities and households (Phillipson C, Ahmed N, & Latimer J 2003), in some instances, because the men "were growing old and needed somebody to look after them" (Gardner K 2002).

Settlement reached the highest levels in the 1970's when families left Bangladesh because of the 1971 War of Bangladeshi Independence (Ragged School Museum 2005). Furthermore, the Immigration Act of 1971 and 1980 Home Office rules, which restricted the right of entry to all but the closest of relatives, stimulated the process of consolidation (Ali J 2000). Back in Bangladesh, there was a change in relationships between men and women due to the economic and political crisis in the 1970's which led to a reduction in family-based farming and an erosion of the traditional gender roles (Phillipson C, Ahmed N, & Latimer J 2003). The patriarchal contract of men as the bread winner had been broken (Kabeer N 2000). For many immigrants, links were, and are still, maintained with their homeland via investing "a proportion of their earning in purchasing land in Bangladesh in the hope of returning to their homeland in the future" being managed by adult sons or first wives (Khanum S M 1994;Khanum S M 2001). The remittances however fuelled inflation, especially for land prices. This meant that the chances of moving back home were even further diminished (Dench G, Gavron K, & Young M 2006). Remittances were greatest in the 60's and 70's when many of the wives had yet to migrate but since then they have gradually dwindled (Gardner K. 2005;Phillipson C, Ahmed N, & Latimer J 2003). Despite the chances of going back home being diminished, and life in Britain being quite hard with many being unemployed, the Bangladeshi migrants found there were a number of benefits to living in a welfare state such as access to benefits, the healthcare system and schools for their children which were both free and of better quality than those found in Bangladesh. All of these factors led to the choice being made to re-unite families in Britain (Dench G, Gavron K, & Young M 2006).

Bangladeshi's in the UK settled in a number of large cities with industrial employment however there is a heavy concentration in Tower Hamlets East London which according to the 2001 census has resident Bangladeshi population of 33.43% compared to 2.15% in London as a whole, and 0.54% in England and Wales (National Statistics 2001). Figures 2.1 and 2.2 illustrate the population of Great Britain and the ethnic origins and the ethnicity in Tower Hamlets respectively. In the space of 30 years the population of Bangladeshis in Tower Hamlets had grown from around 6 000 to 163 000 (Phillipson C, Ahmed N, & Latimer J 2003). There are also smaller, scattered groups located in many other local authority areas, for example in Camden, the Bangladeshi community represents 6.35% of the population (National Statistics 2001). Furthermore, a recent study from the Department of Work and Pensions (DWP) commissioned by the Institute of Employment Studies (IES) (Tackey ND 2006), noted

that there has been little movement of Bangladeshis (or Pakistanis) away from their original settlement areas, with most of the people they interviewed living in the same area since their arrival in the UK or, in the case of young adults in particular, all their lives.

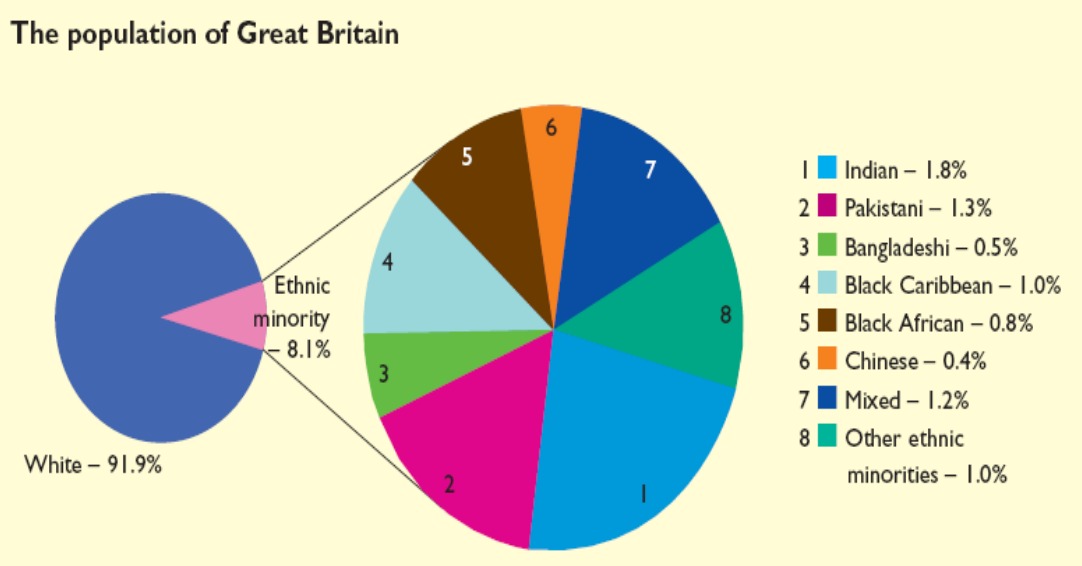


Figure 2.1 **The population of Great Britain and their ethnic origins.**
Source: Census 2001 (Botcherby S & Hurrell K 2004)

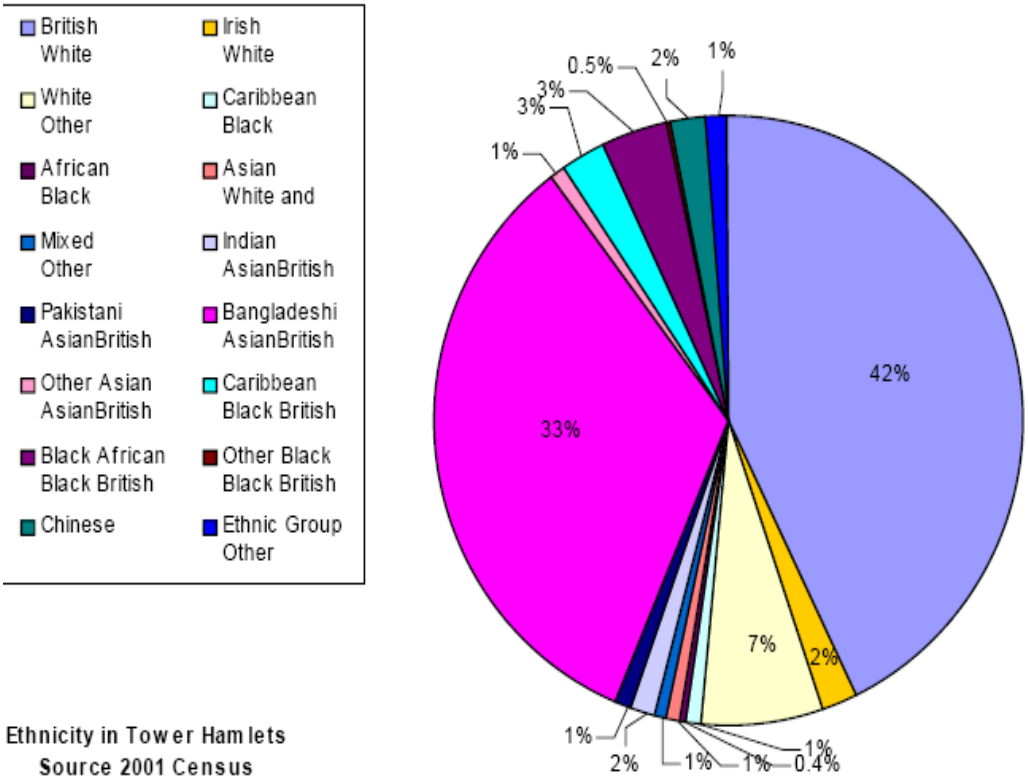


Figure 2.2 **Ethnicity in Tower Hamlets, 2001**

The migration from the Sylhet district represented a change from a peasant-based society to an industrial, urban-based society (Home Affairs Committee 1986). Ali (Ali J 2000) notes that the adaptation to the change in environments was both difficult and dramatic. The first generation migrants often lacked the skills required to find well paid work and furthermore had a poor command of the English language which affected "practically every area of life" (Home Affairs Committee 1986). The language spoken in Sylhet is Sylheti, which is argued to be either a regional version of the state language Bangla (Bengali) or a separate language (Lawson S & Sachdev I 2004). Sylheti is considered to be a lower variety language with Bangla being the language of official administration and education in Bangladesh (Lawson S & Sachdev I 2004). Further to this, Sylheti is predominantly a spoken language with Sylheti Nagri, the writing system for Sylheti last being taught in schools in Sylhet more than 50 years ago (Mehta P 2003). The majority of the Bangladeshi migrants to the UK are not literate in Bengali (Home Affairs Committee 1986), and proficiency in English remains poor, being particularly so where there is a high group density, for example fluency rates for English amongst Bangladeshis is 70% when they comprise less than 2% of the community, where the populations density is 33% and over however, as in Tower Hamlets, the fluency drops to 37% (Ali J 2000;National Statistics 2001). As a whole, literacy rates are low amongst Bangladeshis when compared to other Asians but particularly so for women aged 30-49 and 50-74 where 79% and 90% respectively are illiterate (Ali J 2000;Health Education Authority 1992). Phillipson et al (Phillipson C, Ahmed N, & Latimer J 2003) found that for the first generation Bangladeshi women they interviewed, only 37% attended courses (English in the majority of cases) since being in the UK, with the women stressing a number of obstacles to attendance for example, looking after elderly family, children, lack of confidence, own poor health, restrictions from husbands .

There are a number of distinctive characteristics of the Bangladeshi community, relating "*to the rapid and continuing growth of the Bangladeshi population, the very high proportion of young people, the large family size, the concentration of residents within Greater London, and especially Tower Hamlets, the high degree of segregation, the low socio-economic status and the dependence on local authority housing*" (Eade J, Vamplew T, & Peach C 1996). More recent immigrants to the UK tend to live in wards with a high ethnic minority concentration, as do those who are not fluent in English (JRF: Joseph Rowntree Foundation 1998). Initially, by moving to the same area, the community increased its social capital being able to develop a strong ethnic identity and have access to enhanced social support, as well as a reduced sense of alienation (Nazroo JY 2001) with people having the same cultural norms and beliefs. Muslims (vast majority of the Bangladeshi community) in particular, when compared to other religious groups such as Hindus and Sikhs, are more likely to live in wards with a high ethnic minority concentration together with a high level of deprivation (JRF: Joseph Rowntree Foundation 1998). There is also increased access to political power and being an isolated community can help to prevent the direct effects of racism (Nazroo JY 2001). Furthermore, there is improved access to familiar and preferred foods, especially as the community grew in the 1970's and produce from home was more readily imported. The isolation has been further emphasized due the desire, by some members of the community, especially first generation migrants, not to mix with the British population as a whole, such as women mixing with Western

men who do not hold the same values and beliefs. Marriage outside the Bangladeshi community is generally considered to be unacceptable unless the prospective partner was either already a Muslim or prepared to become one (Beishon S, Modood T, & Virdee S 1998). The generations of Bangladeshi's that have been predominantly raised in Britain however have begun to change their attitudes to the traditions for marriage. While older generations continue to express a desire for partners from abroad, younger generations are tending to move towards selecting partners who have grown up in England. There are a number of reasons for the changing attitudes including the immigration difficulties of gaining entry to the UK, cost and compatibility (Ali J 2000).

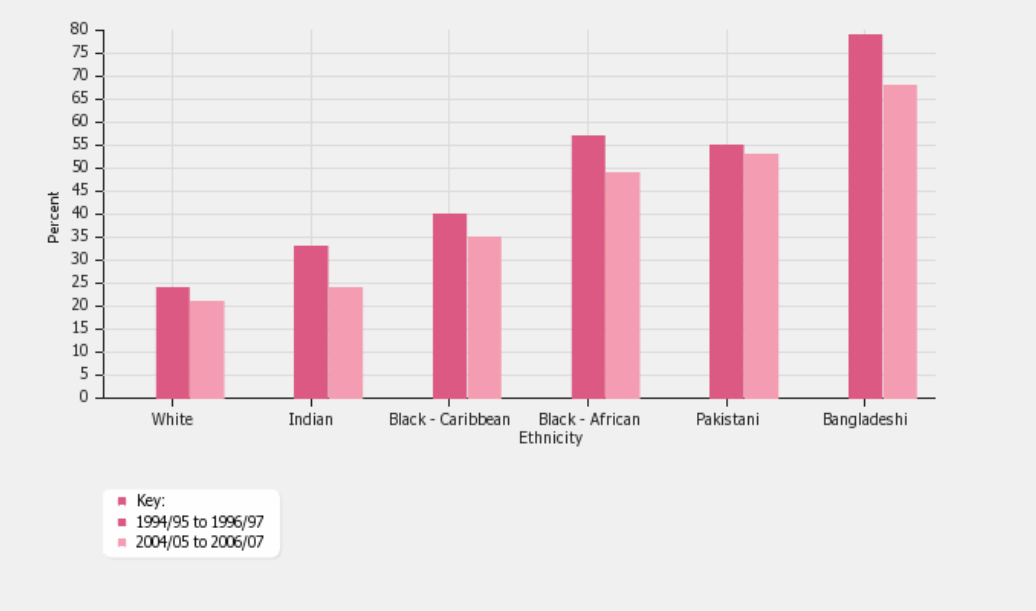
On the more negative side of social isolation and segregation, the community can find themselves between two cultures and struggling with their identity. Bangladeshis, along with other minority ethnic groups, are in a transition period where they are both trying to maintain the important aspects of their own cultures, while at the same time accepting that they are now part of British society (JRF: Joseph Rowntree Foundation 2000). The ongoing segregation of the community is reflected in the poor English language skills as discussed, and the consequent distinctive demographic characteristics of the community such as poor access to employment opportunities, good housing or other services, (Nazroo JY 2001)to be discussed in further detail shortly.

2.4.1 Deprivation and the Bangladeshi Community

In Tower Hamlets East London, the Asian population represents 36.6% of the population, 91% of whom are Bangladeshi (Tower Hamlets Primary Care Trust 2002). According to the deprivation scales (National Statistics 2003) Tower Hamlets is in the top 10% most deprived wards in England (ranks 1 to 841 out of a total of 8414). The *Standardised mortality ratio* is 119 (UK = 100), 2001, which is the highest in London and 17.2% of people have a *limiting long-term illness*, April 2001. The *Unemployment rate*, March 2001 to February 2002, is 12.3%, again the highest in London. There is a *Claimant count*[3] *of* 21%, October 2002, and 20%[4] have *Income Support beneficiaries*, 2002, which is equal with Hackney as highest in London.

The first Home Affairs Committee Report on Bangladeshis in Britain (Home Affairs Committee 1986) noted that Bangladeshis were Britain's most disadvantaged major ethnic minority group. The most recent census, 2001, (National Statistics 2001), and the latest Department of Work and Pensions report indicate that the situation has not improved, with individuals living in households headed by a member of an ethnic minority being shown to be more likely to live in low-income households; particularly the case for households headed by someone of Bangladeshi or Pakistani ethnic origin (DWP - Department for Work and Pensions 2009). Looking specifically at London, graph 2.1 shows the proportion of the population London in low income by ethnic group, over time, which highlights the situation of the Bangladeshi population.

[3] % claiming for more than 1 year
[4] % of the population aged 16 or over



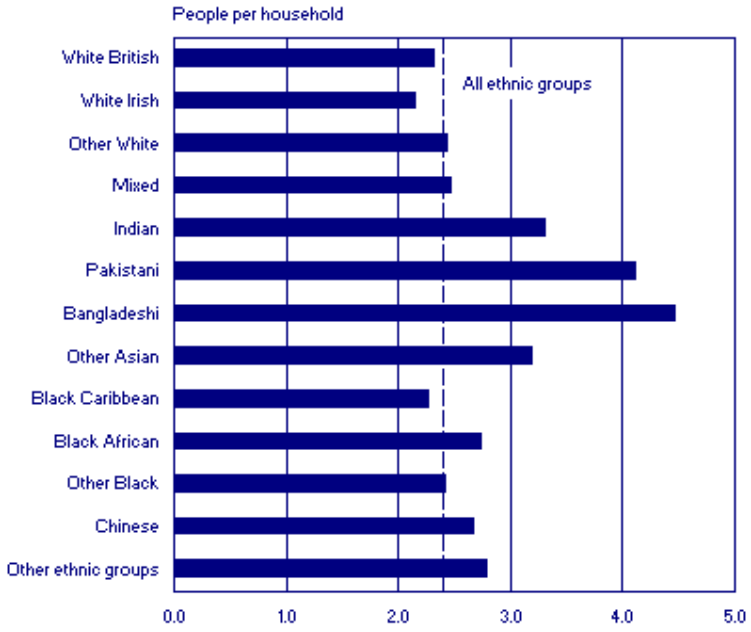
Graph 2.1 **The proportion of the population in London in low income by ethnic group, over time** (MacInnes T & Kenway P 2009)

There are a number of key features relating to the degree of deprivation particular to Bangladeshis in England which are outlined in the following sections.

2.4.1.1 Household size

Compared to the UK population as a whole, and to other ethnic groups, there are differences in family structure and size. There is a strong belief in traditional multi-generational (extended family) households comprising of parent's, their married adult sons' and their families and any, hitherto, unmarried children (Beishon S, Modood T, & Virdee S 1998;Dench G, Gavron K, & Young M 2006). The National Census 2001 showed that Asian households in general are larger than households of any other ethnic group, with households headed by a Bangladeshi person being the largest of all, with an average size of 4.5 people (in April 2001). Only 9 per cent of Bangladeshi households contained just one person. Households containing more than one family with dependent children are most likely to be headed by people from Asian ethnic groups. These types of households made up 2 per cent of all households in Great Britain (GB) whereas among the Bangladeshi community they made up 17 per cent of households (National Statistics 2001). These traditional household structures however have not melded well with the traditional British housing, as is found in Tower Hamlets; consequently some families are being forced to divide (Dench G, Gavron K, & Young M 2006).

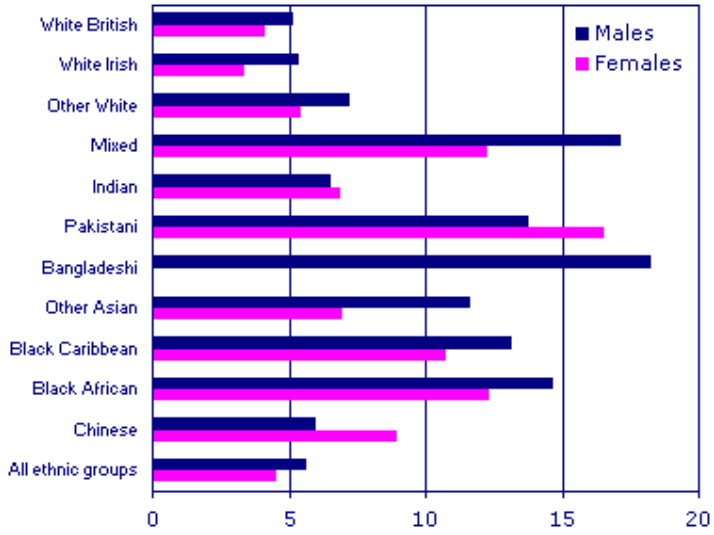
As the women who immigrated to rejoin their husbands often had their first child in Bangladeshi, and continued having further children after arriving in the UK, the children in their families may range in age from 12 and under to their 20's and even 30's leading a wide range of responsibilities and tasks from young children to older husbands and relatives (Phillipson C, Ahmed N, & Latimer J 2003).



Graph 2.2 **Average household size: by ethnic group of household reference person, April 2001, GB** (National Statistics 2001)

2.4.1.2 Labour market

In 2002/03, men from Bangladeshi and mixed ethnic backgrounds had the highest unemployment rates in Great Britain, at 18 per cent and 17 per cent respectively; around three times the rate for White British men of five percent (National Statistics 2001). The more recent Labour Force Survey, Office for National Statistics (ONS) 2005–2007, found that men from Bangladesh again, together with, Pakistan and Turkey had the highest proportion not working (MacInnes T & Kenway P 2009). Many Bangladeshi men left jobs at a relatively young age. Phillipson et al (2003) found that the mean age was 46.67 years for those women with unemployed partners. The arrival of spouses in the 1970's and 1980's, plus declining jobs and poor health prompted many men to withdraw from the labour market, exacerbating the financial problems at home (Phillipson C, Ahmed N, & Latimer J 2003). Bangladeshi women had the highest female economic inactivity rates of 77 per cent (National Statistics 2001); as for the men, this has been reinforced by the 2005-2007 Labour Force Survey (MacInnes T & Kenway P 2009). See graph 2.3 for an illustration of the unemployment rates: by ethnic group and sex, 2002/03, for Great Britain.



Graph 2.3 Unemployment rates[5]: by ethnic group and sex, 2002/03, GB
(National Statistics 2001)

The Department of Work and Pensions report has noted that individuals living in households headed by a member of an ethnic minority were more likely to live in low-income households, being particularly the case for households headed by someone of Bangladeshi or Pakistani (DWP - Department for Work and Pensions 2009). Amongst Bangladeshi families that are in paid employment, their income is lower than other ethnic groups due to a combination of low wages and relatively few women having jobs (Berthoud R 1998). It is evident from the report that the Bangladeshi and Pakistani communities fall predominantly within the bottom and second quintile of disposable household income with 56% of the group falling within the bottom quintile and only 4% in the top compared to 26% and 21% respectively of the white 'group' as illustrated in table 2.2. So, while the British Bangladeshi population may have experienced a change from the absolute poverty seen in Bangladesh, since migration they are now experiencing relative poverty, which may perhaps give rise to the degenerative diseases, such as coronary heart disease, obesity and Type 2 diabetes which are prevalent in this community. In chapter 3, the effects of inequalities on health and the influences of relative versus absolute poverty will be outlined.

[5] The unemployment rate is based on the International Labour Organisation (ILO) definition as a percentage of all economically active. Economic inactivity rates are expressed as a proportion of the working age population.

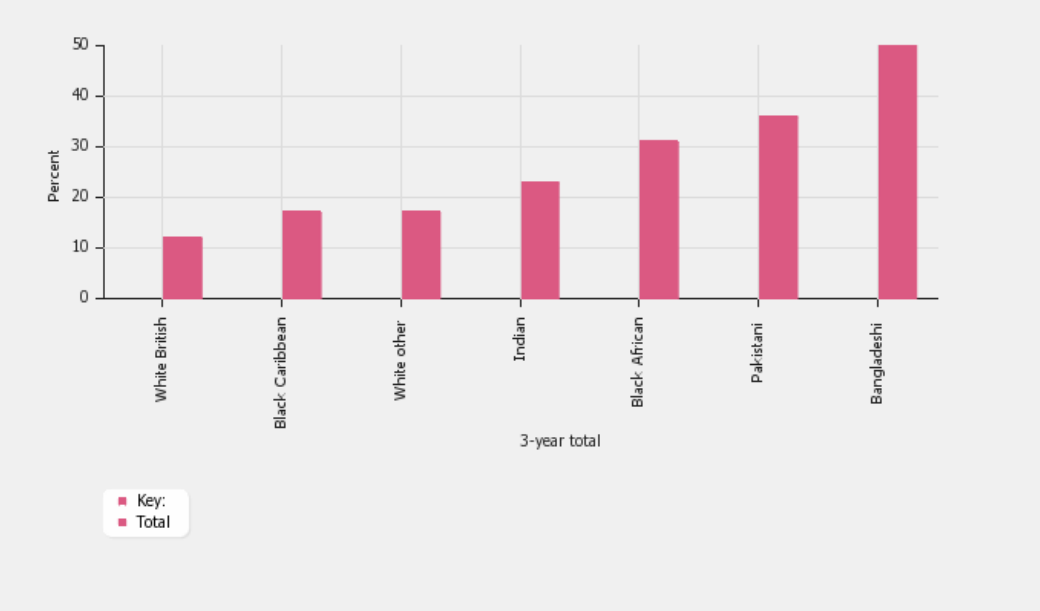
Percentage of individuals **Source: FRS[6] 2007/2008**

Ethnic Group	Net equivalised disposable household income					All Individuals (millions)
	Bottom quintile	Second quintile	Middle quintile	Fourth quintile	Top quintile	
White	19	20	20	21	21	53.6
Mixed	26	22	17	15	20	0.5
Asian or Asian/British	38	20	16	13	13	3.0
Indian	24	17	20	17	23	1.3
Pakistani/Bangladeshi	56	24	10	7	4	1.3
Black or Black British	28	23	20	16	14	1.5
Black Caribbean	26	21	22	17	14	0.7
Black non-Caribbean	30	24	17	15	13	0.8
Chinese or other ethnic group	28	18	16	17	21	0.9

Table 2.2 **Quintile distribution of income for individuals by various family and household characteristics, United Kingdom** (Before Housing Costs)
(DWP - Department for Work and Pensions 2009)

The 2005-2007 Labour Force Survey found that about half of Bangladeshi employees are paid less than £7.50 per hour, compared with about 10% of White British employees (MacInnes T & Kenway P 2009); see graph 2.4 for a comparison of low pay by ethnicity in London. Furthermore, the Annual Population Survey, January 2004 to December 2004 (National Statistics Online: Ethnicity and identity 2006b) found that Bangladeshi men in employment were concentrated in particular industries with three fifths of Bangladeshi men working in the distribution, hotel and restaurant industry, compared with one sixth of their White British counterparts .The very high poverty rates among the Bangladeshi population is not simply the result of low work rates, but the nature and the pay of the work is as much a part of the problem as the sheer lack of work itself (MacInnes T & Kenway P 2009).

[6] Family Resources Survey



Graph 2.4 The proportion of employees in London earning under £7.50 an hour, by ethnicity

A further aspect of the high unemployment rates is that of the desire to have paid employment. According to the Labour Force survey, 15% of Bangladeshi working-age adults lack, but want, paid work, whereas about 40% of Bangladeshi's of working-age adults lack paid work and say they do not want it (MacInnes T & Kenway P 2009). These later figures may be skewed to some extent by the patriarchal nature of the Bangladeshi community. First generation Bangladeshi women in Tower Hamlets have been found to have as their main role, looking after their family or home, with the gender inequalities prevalent in Bangladesh being largely reproduced in the British context by the women taking on the caring role for husbands, children and relatives (Phillipson C, Ahmed N, & Latimer J 2003). In the study by Beishon et al (1998), half of the group interviewed (Bangladeshi & Pakistani) felt that women should work in the home, especially if they were married with children, when it was then considered completely unacceptable to have paid work outside of the home. Furthermore, it has been noted that amongst all ethnic groups, including the Bangladeshi community, that the domestic division of labour is uneven, with the women carrying the largest burden, whether or not, either or both parties were undertaking paid work outside of the home (Beishon S, Modood T, & Virdee S 1998). Thus, the patriarchal contract traditionally observed in Bangladesh continues in Britain, but with very little financial support from husbands (due to unemployment or poorly paid jobs), bringing about an extra degree of pressure on top of poor housing and problems in the wider community (Phillipson C, Ahmed N, & Latimer J 2003). For the men, the inability to fulfil the patriarchal role as head of the family may well be a contributing factor in the high rates of ill-health which is found among the older men (Dench G, Gavron K, & Young M 2006).

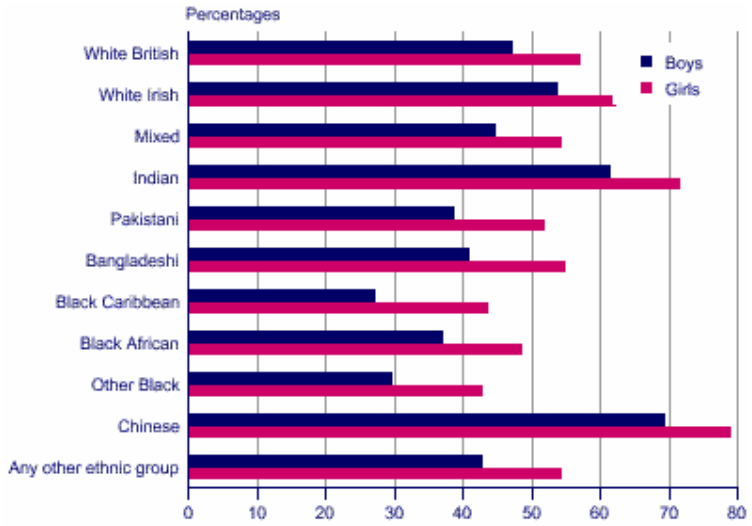
2.4.1.3 Social Security Benefits

While social security benefits are aimed at families without incomes, working families also find this to be an important source of income. Bangladeshi and Pakistani families especially, who

due to a combination of both large the family units and low family earning, find it necessary to claim means-tested benefits. This includes the tax credits introduced in 2003 which are available for people who responsible for at least one child or cares for a young person in their home, but earn low wages. According to the Family Resources Surveys 1994/5 and 1995/6, 68% of families claimed child and one parent benefits; 29% have means-tested benefits and 23% claim some sort of other benefit (Berthoud R 1998). Furthermore 29% of Bangladeshi's claim family credit which is aimed at low paid workers; 15% receive housing benefit and 17% the council tax rebate (Berthoud R 1998). Overall, as a component of the net income for working families, benefits form 20% of the total family income. For Chinese, White, Indian, Caribbean and African families, this represents 3%, 6%, 7%, 8%, and 9% respectively (Berthoud R 1998). For non-working families, means-tested benefits contribute an even larger portion (89%) to the incomes of Bangladeshis (and Pakistanis) (Berthoud R 1998). The means-tested benefits were introduced in the1998 social security reforms and were part of the policy to help target those most in need; the Bangladeshis and Pakistanis have found themselves benefiting substantially from this change. Indeed, looking further back, the welfare state provisions from the mid-1960's onwards have become increasingly free from reciprocity and redirected towards the needs of the individuals, and as these changes tended to benefit the more needy, recent migrants, including the Bangladeshis, have tended to take priority; to an extent, leading to some of the racial conflict seen between communities, such as the indigenous working class of the East end who feel they are more entitled (Dench G, Gavron K, & Young M 2006). Historically there was reluctance among some members of the Bangladeshi community to claim, especially the first generation, as a consequence of cultural and community pressures, and the perceived demands of Islam. The traditional family structure promotes families supporting each other, even in the face of low levels of household incomes. Claiming was thought to be more acceptable once all other avenues for finding work or accessing financial support were exhausted. In the context of religious beliefs, claiming benefits was originally considered to be *Haram* (unlawful) however views have begun to change and for the second generation is considered natural and thus *Halal* (lawful) (Dench G, Gavron K, & Young M 2006;JRF: Joseph Rowntree Foundation 1994).

2.4.1.4 Education

As illustrated in graph 2.5, Bangladeshi and Pakistanis have a low achievement of five or more GCSE grades A*-C (or equivalent compared to Chinese, Indian and White ethnic groups; and within group there was a higher proportion of girls than boys. Bangladeshi's, Black Caribbean and Pakistani groups were also less likely than White British people to have a degree (or equivalent). Among men, Bangladeshis and Black Caribbeans were the least likely to have a degree (11 per cent for each group). Among women, Bangladeshis and Pakistanis were the least likely to have a degree, 5 and 10 per cent respectively. Bangladeshis and Pakistanis were the most likely to be unqualified. Five in ten (49 per cent) Bangladeshi women and four in ten (40 per cent) Bangladeshi men had no qualifications. (National Statistics Online: Ethnicity and identity 2006a)



Graph 2.5 Pupils achieving 5 or more A*-C at GCSE/GNVQ: by sex and ethnic group, 2004, England

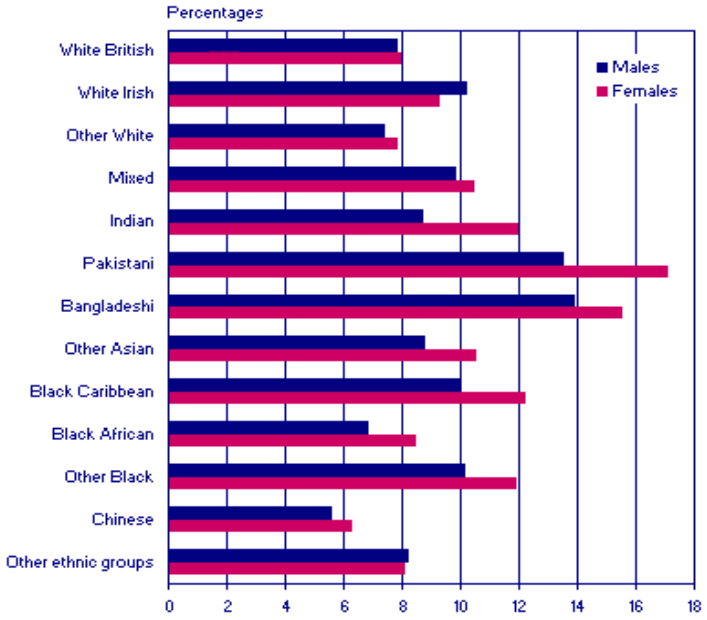
Potential reasons for disengagement in education have been reported by the Joseph Rowntree Foundation (JRF: Joseph Rowntree Foundation 1998;JRF: Joseph Rowntree Foundation 2002). The Bangladeshi and Pakistani communities are the most traditional of the ethnic minority communities in relation to household arrangements, and Pakistani and Bangladeshi parents were most concerned about their children having access to Islamic teaching. Young Asian men have reported tolerance, indulgence and support from their families even when they were out of school or unemployed.

Lower educational attainment is one of the reasons why Bangladeshis, unlike other minority ethnic groups, such as Caribbeans, Black Africans, Indians and Chinese, do not achieve transitions to a higher social class than that of their parents (i.e. transitions across the 'first' and 'second' generations) (Platt L 2005). The migration and mobility study, undertaken by Lucinda Platt for the Joseph Rowntree Foundation, had cohorts from 1971, 1981 and 2001. For the 1971 and 1981 cohorts social class was grouped into three categories – service, intermediate and working; for the 2001 cohort, social class was grouped into three corresponding classes – professional/managerial, intermediate and manual/routine non-manual, plus an additional (fourth) category of unemployment (Platt L 2005). An important factor found to facilitate the upward movement of second generation children was the educational attainment of their parents. A further effect is that of religion which can show diversity both within and between groups, with Muslims (and Sikhs) being found to have lower chances of upwards mobility than other religious groups such as Jews, Hindus and Christians (Platt L 2005).

2.4.1.5 Health

Pakistani and Bangladeshi men and women in England and Wales reported the highest rates of 'not good' health in 2001 (see graph 2.6). Reporting poor health was found to be strongly associated with use of health care services and mortality, with Bangladeshi men for example

being three times more likely to visit their GP than men in the general population after standardising for age (Department of Health 2001a;National Statistics 2001).



Graph 2.6 **Age standardised 'not good' health rates: by ethnic group and sex, April 2001, England & Wales** (National Statistics 2001)

The impact of deprivation and income inequalities will be discussed in detail in chapter 2 in the section on the social determinants of health.

2.5 Foodways – the migrant experience of British Bangladeshis

Food is closely linked with religion, social interactions and economic circumstances, and is one of the most observable aspects of an individual's cultural identity, figuratively it can be said 'you are what you eat' (Hill SE 1990;Kershen AJ 2002). Human foodways are made up by: foods chosen, methods of eating, preparation, number of meals per day, time of eating, size of portions eaten (Fieldhouse P 1995) and are influenced by all of the factors previously discussed in this chapter. When people migrate, they bring with them their culture and traditions, including, in so far as they can, their food habits. As a component of the migration process people may adapt or resist changes in the host country with respect to the language spoken, social values, new foods and eating patterns (Hill SE 1990;Koc M & Welsh J 2001). Both the issue of migration and the transfer to the host country are tied up with identity and resources or capital. Following migration, food choices may be affected in a number of ways, such as, increased cost of traditional foods, food access, altered shopping methods and patterns, changes in employment patterns for family members, racism and pressure from advertising (Hill SE 1990). The migration from rural Sylhet to the UK and East London resulted in a substantial change in environment from one of food insecurity, under-nutrition and nutritional imbalance (Mannan N & Boucher BJ 2002;Mirza H A 2000) to one where there is a high incidence of overweight and obesity resulting from the Western style diet characterised by high fat, meat and sugar intake,

together with reduced physical activity (Mannan N & Boucher BJ 2002). In England, currently 24% of men and women (aged 16 years and over) are obese (Joint Health Surveys Unit & UCL 2009). In a study undertaken by Dench and colleagues, looking at life in London's East End (Dench G, Gavron K, & Young M 2006), Bangladeshi families remarked on the differences between Bangladesh the UK with respect to the move from abject poverty to a life where they are comparatively well off. Two of the study participants, Farzana and Naseema (names anonymised) note:

"F: *Here you don't have anyone starving, do you? Whereas in Bangladesh it's…*
N: *One part is starving and another part is having a feast."*
(Dench G, Gavron K, & Young M 2006)

Food security however requires access to adequate, nutritious food at all times, acquired in socially acceptable ways, a further part of this is access to culturally appropriate diets and a feeling of being at home (Germov J & Williams L 2004;Koc M & Welsh J 2001). For many in migrant communities, including the Bangladeshi community, while being relatively better off than there families in Bangladesh, they remain more deprived than the general population in the UK, with food deprivation being related to lack of access to higher-status foods than to starvation (Beardsworth A & Keil T 1997). Many who are under considerable financial strain make sacrifices, often to their diet, as illustrated by the following quote from work done by Phillipson and colleagues:

"Nowadays we don't have enough to feed ourselves but we have to buy them toys. We go without food so that the children can have what they want". (Married with 5 children) (Phillipson C, Ahmed N, & Latimer J 2003)

Being on a low income however enables families to have access to state tax credits, which can enable some families to follow a modest lifestyle and live reasonably well, and overall can make the UK a better place to raise a family than back in Bangladesh (Dench G, Gavron K, & Young M 2006). But while the Bangladeshi population in the UK may have had a reduction in absolute poverty since immigrating to the UK; relative poverty on the other hand has increased substantially, and it seems that it is the younger generations, who have adopted British habits of spending their money on leisure activities, that are being most effected (Dench G, Gavron K, & Young M 2006). The income distribution in the UK is wide, worsening in the late 1980's (Hills J 1998), the decade following the one which, as discussed previously, saw an increase in migration from Bangladesh. This economic divide brings with it considerable socio-economic differences in health, (Marmot M 2005;Wilkinson R G 1997a;Wilkinson R G 2005) which will be outlined in chapter three.

Further to the changes in access to food, upon migration to the UK, there was also a change from a direct role in the food production in a rural area where people may have been able to practice self-sufficiency in meeting their food needs, to a complex, cash-based food system in an urban environment where their access to food is based on an intricate food distribution network (Fieldhouse P 1995). The effects of dietary changes can be both positive and negative, although it is unfortunately the case that the poorer migrants tend to experience the

consequences of the latter, as can be evidenced by the disproportionally high incidence and prevalence of chronic diseases such as obesity, Type 2 diabetes and heart disease (Caraher M 2004;Department of Health 2001b;Koc M & Welsh J 2001).

Rapid dietary and lifestyle changes, as a result of both migration and a phenomenon named the 'nutrition transition', has seen consistent changes from traditional diets to Western style diets (Caraher M 2004). Migration results in exposure to a new culture and new foods together with a change in access to traditional foods. Dietary acculturation, whereby migrants adopt the dietary practices of the host culture, is a multidimensional, complex and dynamic process, varying considerably depending on factors such as: socio-economic and demographic, cultural including exposure to the British culture, psychosocial and environmental (Satia-Abouta J et al. 2002). Immigrant parents for example may have to cope with the effects of westernisation on their children; whereas first generation migrants may find that they have limited exposure, the same cannot be said for subsequent generations. Another illustration is provided from the work of Dench and colleagues is this comment from Mr Abbas (name anonymised):
"Our youngsters are becoming English. They go to school and pick up things from other kids. They like chips and fish fingers and are doing things which a Muslim should not do and eating foods which a Muslim should not eat." (Dench G, Gavron K, & Young M 2006)

The nutrition transition presents a different process to the effects of migration in that it involves changes to food systems, and patterns of work and leisure, at a population level, in both industrialised and developing countries. The changes see increased access to cheap foods, as a consequence of both Westernisation and Urbanisation. Major changes can be seen for example in the types of food available, often a large increase in fat, sugar and salt, together with a fall in total cereal intake and fibre; traditional versus modern snacks; and fresh markets versus supermarkets (Popkin B 2006). The effects of moving to an obesogenic environment, where over-consumption is prevalent, is further compounded when we take into account the damage that has been done prior to migration, by poor maternal nutrition, which has been shown to lead to marked increases in diabetes, heart disease and stroke (Barker DJP et al. 1993). Research has shown that the development of the chronic disease epidemic, including Type 2 diabetes, occur independently of predisposing genotype, and it is *in utero* factors, leading to foetal malnutrition and permanent changes in the embryo or foetus and low birth weight (Hales CN & Barker DJP 1992). The nutrition transition, together with the evolutionary theories for Type 2 diabetes and biological determinants will be presented in detail in chapter two.

Traditionally, when the food is available, people from Bangladesh have eaten a diet comprising of rice, fresh water fish, beans and lentils, and seasonal vegetables (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000;Hill SE 1990;Mannan N & Boucher BJ 2002), the Bangladeshi equivalent of our meat, starch and two veg[etables]. Chicken, being less expensive, is consumed more than red meats and other kinds of poultry (Mannan N & Boucher BJ 2002). The primary oils used for cooking are groundnut, soya bean and mustard oil for savoury dishes and ghee for pilau, meat dishes and some desserts (A Mu'min Chowdhury, Cecil

Helman, & Trisha Greenhalgh 2000;Mannan N & Boucher BJ 2002). The most distinctive dish from the Sylhet district is rotten puti fish[7], made by placing the fish in earthenware pots, covering with mustard oil and burying in the ground, which after being dug up has fermented to form a paste which can be added to fish curries or fried with chillies and eaten as a pickle (Collingham L 2005). Prestige is asserted on food types or the manner in which they are served. Pilau, for example, is eaten in Bangladesh by people of all socioeconomic status levels, with variations coming from the type of fat used in the preparation; wealthy families use ghee, middle class use shortening and poorer families use coconut milk (Fieldhouse P 1995). The common seasonings used are coriander, cumin, turmeric, chilli, fenugreek, cloves, cardamoms, cinnamon, bay leaves, ginger, garlic fennel seeds, onion and garlic (Hill SE 1990;Mannan N & Boucher BJ 2002). According to their health belief system many of the spices and seasonings used in food preparation are believed to have therapeutic qualities. Boiling and shallow frying are the chief ways of cooking everyday foods, with the generous use of oil, ghee and spices being seen as a mark of affluence and hospitality (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000). The intake of puddings, desserts and sweets is usually kept for special occasions (Mannan N & Boucher BJ 2002), however high fat snacks, such as chana chur, vegetable or meat samosas, paratha, pakoras, biscuits and crisps, may be taken regularly and at any time of the day. The main beverage consumed is very sweet hot tea as well as fizzy drinks, Sharbat (homemade lemonade) and fruit juices; lassi may be taken by some but only in the very hot weather (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000;Hill SE 1990;Mannan N & Boucher BJ 2002). The recipes used may not have a written form as is common in pre-literate and many developing countries as opposed to industrial societies. In rural Bangladesh for example, experience and experimentation replace strict use of recipes. Cultural knowledge of traditional diet is encoded in methods of food preparation and production which is then able to be transmitted inter-generationally, illuminating the culture of their place of origin and reflecting the way of life and material resources of their users (Fieldhouse P 1995). Upon immigration to the UK Bangladeshi immigrants were faced with a number of dietary changes based on the availability (or not) of traditional food items, as well as personal preference, social and religious custom, and exposure to British eating habits. (Hirani V & Primatesta P 2001). There was an increased intake of mutton and chicken in place of traditional Bangladeshi fish although some fish native to the British Isles were also consumed (Mannan N & Boucher BJ 2002). Initially meat was bought from Jewish butcher shops as little *halal* meat was available and *kosher* meat is acceptable to the Muslim's due to similar methods of religious slaughter (Beardsworth A & Keil T 1997). The dietary laws of Islam are very similar to that of Judaism (Beardsworth A & Keil T 1997). Following the increased migration of Bangladeshi immigrants in the 1970's which saw families reunited, there was also an increase in the import of traditional Bangladeshi foods, for example fresh, frozen and dried Bangladeshi fish, particularly so to areas such as Tower Hamlets in East London where the majority of the migrants settled (Mannan N & Boucher BJ 2002).

[7] Scientific names: Puntius chola and Puntius sophore. This fish has low vitamin A content but high calcium content. (Roos N, Islam MM, & Thilsted SH 2003)

The National Food Survey (NFS), which was set up in the 1940s to monitor the diet of the urban 'working class' population during the war years, being extended in 1950 to cover all households in the general population and to collect data on food consumption and expenditure, has consistently shown that the nutrient intakes of groups in the lowest income groups are less likely to be adequate when compared to those in the highest income groups (Department for Environment 1999). Furthermore, many Bangladeshi families face additional expenses for religious teaching, being concerned that there children are involved in cultural and religious activities, and have access to Islamic teachings (Beishon S, Modood T, & Virdee S 1998). As explained by one mother for example:

"The children need a lot of money. Two of them are at Madrasas that costs us a lot of money. We take money out of the food budget to pay for that" (Married with 7 children) p40 (Phillipson C, Ahmed N, & Latimer J 2003)

The Health Survey for England – The Health of Minority Ethnic Groups 1999 (Bajekal M et al. 2001), is the first large scale survey done among the different minority ethnic populations in Britain which enables us to see some of the differences between the minority ethnic groups, as well as within the groups with respect to differences associated with age and/or gender. A number of different aspects of the diet were considered in the survey with the questions being based on the Dietary Instrument for Nutrition Education (DINE), and included intake of fruit and vegetables, fibre, salt, fat and red meat. According to the Survey (Hirani V & Primatesta P 2001) eating habits between minority ethnic groups vary considerably, with Bangladeshi men and women being shown to have more unhealthful diets than other minority ethnic groups. Bangladeshi men and women had the lowest consumption of fruit and a higher proportion of consumed red meat six or more times a week; among men, the proportion with an adjusted high fat score (fat scores were adjusted in order to take the energy requirements of individuals into account) was highest among Irish and Bangladeshi men and highest among Bangladeshi women; and, the proportion with a low fibre score was highest among Bangladeshis (Hirani V & Primatesta P 2001). Different cultural practices and preferences can also be seen between the generations with respect to food choice (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000). This may offer a valuable insight into individual and collective tendencies for adaptations to new patterns of cultural conduct, self-identity or how people are identified by others as members of an ethnic group, the extent to which individuals are willing to interact with members of social groups outside of their own and, ability to integrate into the everyday activities of the British society (Koc M & Welsh J 2001). Each generation, while learning from the culture it is born into, is never exactly the same as the predecessor; traditions are preserved while building in mechanisms for change (Fieldhouse P 1995). It is more likely that young people would begin to introduce non-traditional foods, changes that potentially are associated increased risk of non-communicable diseases such as cardiovascular disease and Type 2 diabetes.

Generally, first generation British Bangladeshi immigrants have been found to have retained a very high degree of their traditional dietary habits with changes being "a form of elaboration of the traditional customs rather than the adaptation of the host culture" (A Mu'min Chowdhury,

Cecil Helman, & Trisha Greenhalgh 2000). In other words, the changes may be seen to be associated more with urbanization than westernization. Foods such as meat, spices, milk, butter and sweets have been shown to be consumed in greater quantities than their counterparts in Bangladesh (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000). Exceptions have been seen in some families with the intake of 'Western' foods, for example eating peas, baked beans, noodles and pizza as 'proper meals', especially when children had been exposed to them at school (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000), and breakfast now comprising of cereal, regardless of ethnicity (Caplan P et al. 1998). There may also be the adoption of more small, informal and less significant meals, reflecting those of the general British population. A further observation is, that while many Bangladeshi's – over 60% as noted previously - are either employed in or are self-employed in the restaurant trade (Carey S 2004), very few actually eat in these restaurants themselves. This may be due to a combination of the adaptation of the recipes, to be milder and creamier with far less chilli and black pepper, to cater for the taste of western customers, and the ingredients, for example spices, meat and fish, not being as fresh as that available in Bangladesh (Collingham L 2005). The clientele in the mainstream restaurants –'curry houses' - is predominantly white (81%), with some reporting the clientele to be mostly male but others are mixed, the later tending to be newer modern outlets (Carey S 2004). The situation in the cafes serving authentic Bangladeshi and South Asian cuisine is different however, with a high proportion of the customers being drawn from Bangladeshi or other South Asian groups and having a marked male bias of up to 90% (Carey S 2004). The situation for the children of these first generation migrants however paints a different picture.

Second generation descendants of migrants appear to adopt British dietary habits, with an increase in fat and meat intake, a reduction in fish, and a reduction in fruit, vegetables and pulses (Landman J & Cruickshank JK 2001). In particular there is a growing popularity of fast foods such as fried chicken and chips which can be evidenced by the increasing numbers of *Halal* fast food outlets in the London Borough of Tower Hamlets (Mannan N & Boucher BJ 2002). A recent study fast food outlets in the London Borough of Tower Hamlets specifically gives a further insight into the categories of food businesses available and the food retail landscape in Tower Hamlets including numbers and types of fast food outlets and the access to healthy food (Lloyd S, Madelin T, & Caraher M 2009a). From information obtained from the Environmental Health department at the London Borough of Tower Hamlets they found that there were 2214 registered food businesses across five classes: 'mini-market', 'off license', 'grocery', 'supermarket' and 'newsagent', 'fast food outlets and or restaurant. The takeaway stores were able to be further broken down by type into the following categories: Pizza bar, fish and chip bar, Chinese takeaway and fish and chip shop, donar kebab takeaway and, Fried chicken takeaway. Ninety seven percent of households were within a ten minute walk of a fast food outlet, with ninety eight percent being found to be within a ten minute walk of the 297 grocers and or mini-markets in Tower Hamlets, although some grocery stores had limited healthy food options. Observations of the fast food outlets in the early evening found that few families ate in the premises or ordered food to take away but when they did a more senior member of the family usually took control; there were a large number of young men using the

take-aways; little female usage and there were largely only unhealthy choices available to customers. Nutrient analysis, not surprisingly, showed that many of the foods were high in fat, in particular saturated fat, and were high in sodium.

In addition to the fast food outlets, observations of the food retail outlets revealed that many had little healthy food on prominent display or special offer. Only 20% were found to prominently display fruit and vegetables versus nearly 45% selling confectionary or crisps close to the counter. Only 17% of the stalls in the General Market sold fruit and vegetables, and of these approximately 35% were selling more than five fruit and seven vegetables, an indicator of healthy options in previous work (Bowyer S et al. 2008;Dowler E et al. 2001), and fewer than 20% were considered acceptable in terms of quality based on observation.

With respect to Bangladeshi restaurant food, unlike the first generation migrants, younger generations may see it as authentic as that made at home, and in some cases is preferred to that prepared at home; the second generation (and subsequent) not having the 'taste' for the more traditional recipes that their parents are accustomed to (Collingham L 2005). It is however the more traditional Bangladeshi cafes that are visited by Bangladeshi and other South Asian groups (Carey S 2004). The Health Survey for England (Hirani V & Primatesta P 2001) found that, with the exception of the Irish, adjusted mean fat intake and the prevalence of adjusted high fat score was slightly higher among the younger informants; a similar pattern was found for fibre, with the proportion with a low fibre score being higher among younger informants (16-34 years) than older informants (55 years and over) in both sexes and in almost all minority ethnic groups, including Bangladeshis. A more recent study however found that South Asians migrants to Scotland show that adverse dietary elements are developed in the first generation, but they are then modified in subsequent generations (Anderson AS et al. 2005). It should be noted however that 'South Asian' refers to a number of different ethnic groups who do not necessarily have the same beliefs, traditions or customs therefore it is difficult to determine whether or not these findings would relate to the Bangladeshi population or not. Furthermore, differences are likely to be seen between communities of South Asians in general, and the Bangladeshi's in particular, who live in geographically diverse areas.

2.6 Summary

The circumstances behind migration to the UK, together with the culture, beliefs and attitudes, provide an insight into the identity of this community. The characteristics of the community as they relate to the rapid growth of the population and the number of young people; the high concentration and segregation, especially in Tower Hamlets with the heritage and tradition as anchor's to the community; and their low-socio-economic status; together with the effects of migration and the pull of the nutrition transition on foodways and patterns of work and leisure, have all combined to a produce a significant impact on the health of this population, and helps us to understand why this community suffers disproportionally from Type 2 diabetes. The next chapter will go on to layout the major models of explanation for Type 2 diabetes, including the biological and socio-economic determinants.

Chapter 3: Diabetes Mellitus - Models of Causality

3.0 Introduction

This chapter will layout the major models of explanation for Type 2 diabetes: the aetiological factors that can initiate a disease process together with the mechanistic components that may account for the higher prevalence in some populations. When discussing the mechanistic components, such as the explanations for inequalities in health, there may be some overlap due to the multi-factorial nature of these issues, however, it is important to draw attention to certain aspects in order to provide the reader with adequate context for the various academic arguments and the epistemological principles that underpin the research to be carried out.

The two most common aetiological subtypes diabetes, Type 1 and Type 2, shall be described in the following section, with reference also being made to gestational diabetes and the metabolic syndrome. Throughout this chapter the focus shall be on Type 2 diabetes and it's precursors, obesity and insulin resistance, as it is these diseases that are impacted on most prominently by diet, lifestyle and socio-economic conditions, and as such are to a large extent preventable in populations locally in the UK and globally.

3.1 Description of aetiological subtypes

3.1.1 Type 1 diabetes

Type 1 diabetes, previously know as insulin-dependent diabetes or juvenile-onset diabetes, is the consequence of the immunological destruction of the insulin-producing islet beta cells of the pancreas (Atkinson MA & Eisenbarth GS 2001;World Health Organisation 1999). Type 1 diabetes occurs in all races although is relatively rare in Asians (Rosenbloom AL et al. 1999). Relative to the total burden of diabetes Type 1 diabetes usually accounts for only a minority of cases, but in younger age groups it is the predominant form of the disease in most developed countries (International Diabetes Federation 2005a). People are not usually obese when they present with type 1 diabetes however obesity is not incompatible with diagnosis (World Health Organisation 1999).

3.1.2 Type 2 diabetes

Individuals with Type 2 diabetes, previously known as non-insulin dependent (NIDDM) or maturity-onset, have a relative rather than absolute insulin deficiency, and are frequently resistant to the action of insulin (DeFronzo RA, Bonadonna RC, & Ferrannini E 1997;Lilloja S et al. 1993;World Health Organisation 1999). Insulin secretion is defective as well as being insufficient to compensate for insulin resistance (Lebovitz HE 1999;World Health Organisation 1999). Type 2 diabetes may be treated with diet alone or with a combination of diet therapy and oral hypoglycaemic agents and/or insulin. It is not uncommon however for Type 2 diabetes to go untreated for many years prior to diagnosis, before the symptoms become severe enough to

necessitate investigation (Harris MI 1993) or, the diagnosis is made 'by chance'. It has been estimated that up to fifty percent of people with Type 2 diabetes remain undiagnosed (Harris MI 1993). In developing countries, such as the Indian subcontinent the estimation is even higher. The low educational status of many individuals and inadequate health care facilities in rural areas can delay the diagnosis of diabetes until the symptoms become very severe; in these areas, up to 70% of people with diabetes remain undiagnosed (Ramachandran A, Snehalatha C, & Viswanathan V 2003). Individuals with Type 2 diabetes are at an increased risk of developing macrovascular and microvascular complications, especially if adequate control of blood glucose levels is not achieved. One of the significant issues relating to individuals with undiagnosed Type 2 diabetes therefore is that complications may be developing due to sub-optimal control of a condition they are not aware they have. See figure 3.1 for a summary of the major complications of diabetes. There is evidence for example that retinopathy begins developing at least 7 years before clinical diagnosis of Type 2 diabetes and that the onset of Type 2 diabetes may be at least 12 years prior to diagnosis. Furthermore the rates of coronary heart disease in both diagnosed and undiagnosed Type 2 diabetes are about twice that for non-diabetic individuals. Similarly mortality is the same in diagnosed and undiagnosed diabetes, and both are significantly higher than non-diabetic individuals. (Harris MI 1993).

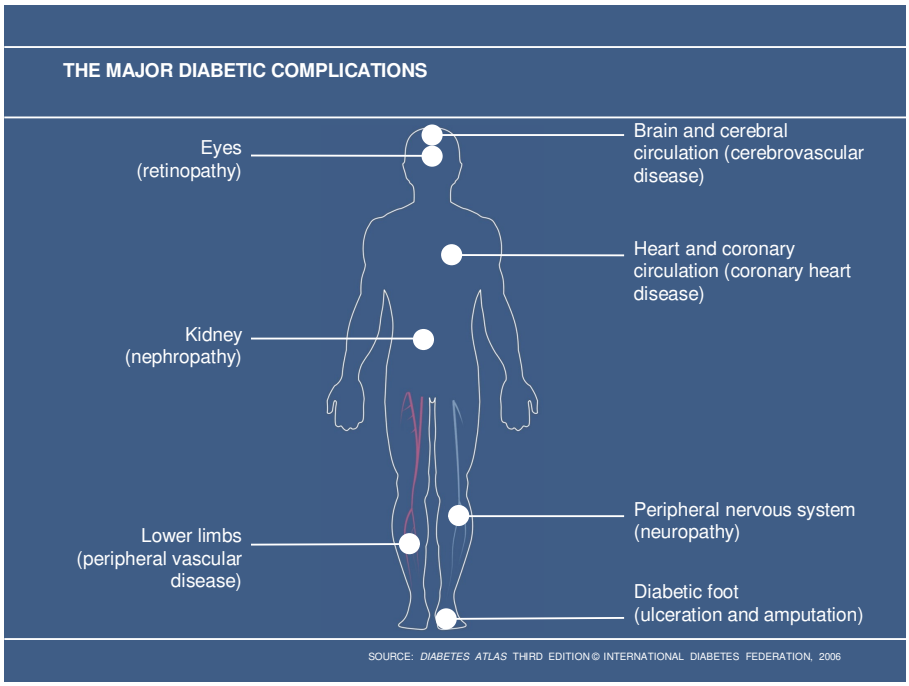


Figure 3.1 The major diabetic complications

Type 2 diabetes is heterogeneous in nature, with the clinical expression (either diagnosed or undiagnosed) requiring both genetic and environmental factors (Lebovitz HE 1999). The risk of developing Type 2 diabetes is influenced by a number of factors including: increasing age, obesity (especially abdominal obesity), insulin resistance, lack of physical activity, history of gestational diabetes, and presence of hypertension or dyslipidaemia (Lemieux S et al. 1996;O'Rahilly S 1997;Riste L, Khan F, & Cruickshank K 2001;World Health Organisation 1999). Type 2 diabetes is preceded by insulin resistance, obesity, hyperinsulinaemia and

dyslipidaemia in 75-85% of patients (Lebovitz HE 1999;Stern MP 1997). It is possible to reduce insulin resistance (increase insulin sensitivity) and prevent the onset of diabetes via lifestyle changes that result in a reduction in weight and increased physical activity; pharmacological interventions have also been found to be effective, however insulin sensitivity will never be restored to normal (International Diabetes Federation 2003;Ramachandran A, Snehalatha C, & Viswanathan V 2003;Wing RR et al. 2005;World Health Organisation 1999).

Significant differences in risk for developing diabetes are also seen between ethnic/racial subgroups and is often associated with a strong familial, most likely genetic, predisposition (de Courten M et al. 1997;Ramachandran A, Snehalatha C, & Viswanathan V 2003;Valle T, Tuomilehto J, & Eriksson J 1997). Furthermore, environmental influences, such as lifestyle changes as a result of urbanisation and poverty have to date been under recognised as a risk factor the development of Type 2 diabetes. Examples can be seen in populations, such as the Asian Indians and Pima Indians, where those living a 'traditional' lifestyle, characterised by a diet lower in animal fat, higher in complex carbohydrate (starches) and greater energy expenditure on physical labour, have less obesity and Type 2 diabetes, than those living in a more 'affluent' urban environment where there are deviations in diet pattern and decreased physical activity (Ramachandran A, Snehalatha C, & Viswanathan V 2003;Ravussin E et al. 1994). A similar pattern can also be seen in immigrant groups who, through a combination of moving to an urban environment and adopting a more Western style lifestyle, have higher rates of glucose intolerance and diabetes compared with the indigenous population of different ethnic background (Department of Health 2001b). In Britain, standardized mortality ratios from reported diabetes closely correlate with deprivation scores and inner cities (Gardner MJ, Winter PD, & Barker DJP 1984;Ramachandran A, Snehalatha C, & Viswanathan V 2003;Riste L, Khan F, & Cruickshank K 2001). The prevalence of Type 2 diabetes is higher for those exposed to more deprivation at both an individual and electoral ward level (Ismail AA et al. 1999;Riste L, Khan F, & Cruickshank K 2001).

3.1.3 Gestational diabetes

Gestational diabetes is carbohydrate intolerance resulting in hyperglycaemia of variable severity with onset during pregnancy (World Health Organisation 1999). Patients will be treated with diet alone or insulin; oral hypoglycaemic agents are contraindicated. Gestational diabetes includes the possibility that the glucose intolerance actually antedated the pregnancy but the symptoms were not recognised, in this case the diagnosis is actually Type 2 diabetes and the treatment during and after the pregnancy should reflect this (World Health Organisation 1999).

Those at increased risk of gestational diabetes include older women, those with a previous history of glucose intolerance, those with a history of large for gestational age babies, women from certain high-risk ethnic groups, and any pregnant woman who has elevated fasting, or casual, blood glucose levels (World Health Organisation 1999). It is recognized that intrauterine exposure to the altered metabolic environment of diabetes or gestational diabetes mellitus (GDM) is associated with increased risk of obesity and abnormal glucose metabolism during

childhood and adult life in the offspring, thus, contributing to the progressive increase of obesity, GDM and Type 2 diabetes in the population (International Diabetes Federation 2006).

3.1.4 Metabolic syndrome

Type 2 diabetes is the condition at the 'tip of the iceberg' representing the Metabolic Syndrome, a cluster of cardiovascular disease risk factors (Cordain L, Eades MR, & Eades MD 2003;Zimmet PZ 2000). The concept of the metabolic syndrome has been around for at least 80 years being variously known as syndrome X, the insulin resistance syndrome and the deadly quartet (Alberti KGMM, Zimmet P, & Shaw J for the IDF Epidemiology Task Force Consensus Group 2005;Eckel RH, Grundy SM, & Zimmet P 2005). The current recognition of the syndrome has been as a consequence of the worldwide obesity epidemic (Eckel RH, Grundy SM, & Zimmet P 2005). The metabolic syndrome is associated with increased risk for both Type 2 diabetes and cardiovascular disease (Isomaa B et al. 2001;Lakka HM et al. 2002), with numerous studies showing that the metabolic syndrome predicts future diabetes (Hanson RL et al. 2002;Laaksonen DE et al. 2002).

3.1.4.1 Anthropometric measurements

Waist circumference has been included in several definitions of the metabolic syndrome (Adult Treatment Panel III 2001;Balkau B & Charles MA 1998;World Health Organisation 1999), with the IDF consensus worldwide definition placing it as essential due to the strength of the evidence linking waist circumference with cardiovascular disease and the other metabolic syndrome components (Alberti KGMM, Zimmet P, & Shaw J for the IDF Epidemiology Task Force Consensus Group 2005). Central (visceral) obesity is seen as an early step in the aetiological cascade leading to metabolic syndrome (Alberti KGMM, Zimmet P, & Shaw J for the IDF Epidemiology Task Force Consensus Group 2005). In a comparative evaluation of waist circumference, waist-to-hip ratio and body mass index, by the Canadian Heart Health Surveys Research Group, found that waist circumference may be the best single indicator of other individual and multiple cardiovascular risk factors (Dobbelsteyn CJ et al. 2001). In Asians and Asian Indians there is a relative predominance of visceral rather than subcutaneous adipose tissue with increasing waist circumference, ethnic specific waist circumferences have therefore been incorporated into the new definition (see table 3.1) (Alberti KGMM, Zimmet P, & Shaw J for the IDF Epidemiology Task Force Consensus Group 2005).

Country/Ethnic group		**Waist circumference**
Europids *In the USA, the ATP III values (102 cm male; 88 cm female) are likely to continue to be used for clinical purposes*	Male	≥ 94 cm
	Female	≥ 80 cm
South Asians *Based on a Chinese, Malay*	Male	≥ 90 cm
	Female	≥ 80 cm

and Asian-Indian population		
Chinese	Male	≥ 90 cm
	Female	≥ 80 cm
Japanese*[8]	Male	≥ 90 cm
	Female	≥ 80 cm
Ethnic South and Central Americans	Use South Asian recommendations until more specific data are available	
Sub-Saharan Africans	Use European data until more specific data are available	
Eastern Mediterranean and Middle East (Arab) populations	Use European data until more specific data are available	

Table 3.1 **Ethnic specific values for waist circumference** (International Diabetes Federation 2005b)

Type 2 diabetes and the metabolic syndrome have historically been regarded as a disease of adults, of concern however is with the increasing rates of obesity in the young, it is evident that they are occurring in increasing numbers even in childhood and among all ethnic groups (Sinha R et al. 2002;Weiss R et al. 2004;Zimmet PZ, Alberti KGMM, & Shaw J 2001). Management of the underlying risk factors for the metabolic syndrome – being overweight or obese, physical inactivity and an atherogenic diet, should be a focus despite being more common in those who are genetically susceptible (Eckel RH, Grundy SM, & Zimmet P 2005).

3.2 Global Burden of Disease

As discussed, Type 1 and Type 2 diabetes are very different in their aetiology; the same is true for the global prevalence with approximately 85% to 95% of all diabetes in developed countries being type 2; the percentage being even higher in developing countries. This common and serious global health problem, for most countries, is occurring in association with a variety of factors including rapid changes in dietary patterns, reduced physical activity, cultural and social changes, ageing populations, increasing urbanization, and other unhealthy lifestyle and behavioural patterns (International Diabetes Federation 2005a;Popkin BM & Gordon-Larsen P 2004). This section outlines the burden of disease for Type 2 diabetes.

3.2.1 Type 2 diabetes

The burden of chronic diseases is increasing rapidly worldwide, with the projected number of deaths attributable to chronic diseases rising from 3.78 million in 1990 (40.4% of all deaths) to an expected 7.63 million in 2020 (66.7% of all deaths) (World Health Organisation 2003b;World Health Organization 2005). Two percent of the projected global distribution of total deaths can

[8] The Japanese data has been amended from ≥85cm in men and ≥90cm as per the 2005 IDF definition following more recent publications.

be attributed to diabetes mellitus, the majority of which is type 2. Cardiovascular disease, which is strongly associated with Type 2 diabetes, accounts for 30% of this total (Strong K et al. 2005). Common, modifiable risk factors, such as unhealthy diet and physical inactivity, underlie the major chronic diseases; up to 80% of Type 2 diabetes being preventable by adopting a healthy diet and increasing physical activity (International Diabetes Federation 2006).

Diabetes currently affects 246 million people worldwide and is expected to affect 380 million by 2025, with the largest increases in diabetes prevalence taking place in developing countries. Increased urbanization, westernization and economic development have already contributed to a substantial rise in diabetes, resulting from the rapidly changing lifestyle changes which have seen the traditional lifestyles and dietary patterns that have sustained people over generations disappearing (International Diabetes Federation 2006). The high rates of Type 2 diabetes usually found in migrant also is likely to result in those who experienced a greater degree of lifestyle change (International Diabetes Federation 2006). The increase in diabetes prevalence as a result of increasing population size and aging alone will be relatively small (Ramachandran A, Snehalatha C, & Viswanathan V 2003). See table 3.2 for summary of world prevalence of diabetes and impaired glucose tolerance (IGT). Those with IGT and impaired fasting glucose (IFG) have a high risk of progressing to develop Type 2 diabetes with both conditions having a high degree of insulin resistance (Ramachandran A, Snehalatha C, & Viswanathan V 2003). Over a 5-10 year period, approximately 40% of those with IGT will progress to Type 2 diabetes; in countries such as Bangladesh a high level of IGT has been reported in the suburban population and IFG is now also been found to be increasing in the rural population (Ramachandran A, Snehalatha C, & Viswanathan V 2003;Sayeed MA et al. 2003;Sayeed MA et al. 1997). However, due to the modifiable lifestyle factors the development of Type 2 diabetes can be delayed or even prevented if the lifestyle changes (National Institute of Diabetes and Digestion and Kidney Diseases (NIDDK) 2004).

	2007	**2025**
Total population (billions)	6.6	7.1
Adult population (billions) (20-79 years)	4.1	5.2
Diabetes (20-79 years)		
Number of people with diabetes (millions)	246	380
Comparative prevalence (%)	6.0	7.3
Impaired Glucose Tolerance (20-79 years)		
Number of people with IGT (millions)	308	418
Comparative prevalence (%)	7.5	8.0

Table 3.2 World prevalence all diabetes and IGT; adult population
(International Diabetes Federation 2006)

Close links are being seen between the socioeconomic transition of many 'developing' countries and epidemiological transition. At the same time as there has been a reduction in the previously dominant diseases of dietary deficiency and communicable (infectious) diseases which tended

to occur earlier in life, due to improved public health strategies such as sanitation and vaccinations, and the social and technological changes resulting in increased urbanization and thereby changing patterns in food consumption and activity, there has been a dramatic rise in the non-communicable diseases (NCDs) such as Type 2 diabetes, cardiovascular diseases and obesity, amongst others, that generally occur later in life (Kim S, Moon S, & Popkin B 2001;Popkin B, Horton S, & Kim S 2001). The World Health organisation has noted that it will be in the developing countries that the brunt of the diabetes epidemic in the 21st century is most likely to be felt (Sayeed MA, Mahtab H, Khanam PA, Latif ZA, Ali SMK, Banu A, Ahren B, & Khan AKA 2003). It is these nations that are currently undergoing socio-economic development with a concomitant increase in urbanisation. The WHO World Health Report states: "*Over a billion people will enter the 21st century without having benefited from the health revolution: their lives remain short and scarred by disease. Many countries must deal with these disease problems of the poor whilst simultaneously responding to rapid growth in non-communicable diseases: they face a double burden"* (WHO 1999).

Global health expenditures to treat and prevent diabetes and its complications total at least USD232 billion in 2007. By 2025, this number will exceed USD302 billion. Expressed in international dollars (ID), which correct for differences in purchasing power, at least ID286 billion of goods and services was consumed by diabetes in 2007, and at least ID381 billion in 2025. These losses arising from the premature death and disability cause the world to suffer huge losses in the form of foregone economic growth. Between 2005 and 2015, the World Health Organization (WHO) predicts net losses in national income from diabetes and cardiovascular disease of some ID557 billion in China and ID336 billion in India (International Diabetes Federation 2006). That many developing countries face a dual burden of disease is of major significance, for the very lifestyle changes that are triggering the epidemiological transition are further compounded by the background of fetal and infant nutrition insults which may render these populations even more susceptible to adverse chronic disease outcomes (Kim S, Moon S, & Popkin B 2001). In rural Bangladesh for example, there is an increase in the prevalence of Type 2 diabetes compared to previous studies and reports, with Sayeed *et al* (2003) finding that wealthy class, family history of diabetes, reduced physical activity, increased age, body mass index, and waist-hip ratio were the important predictors of diabetes. This is occurring at the same time as over half the population is classified as poor and many suffering from chronic malnutrition, as discussed in chapter two.

The epidemiological transition has been termed 'coca-colonisation' to describe the impact of the ways of Western societies on developing countries (Koestler A 1976) such as the expansion of 'fast-food' chains selling food laden with fat, salt and sugar. The developing countries can be said to be following in our footsteps (McMichael T 2001). This transition is also being seen in the economically disenfranchised minorities of developed countries (Zimmet PZ 2000;Zimmet PZ 1999) such as in the UK, the US and Australia. Rapid socio-economic development in developing countries and the migration to Western countries over the last 40 – 50 years has resulted in dramatic lifestyle changes specifically with respect to diet and physical activity (Zimmet PZ 2000). Of particular importance is the greater predicted number of middle-aged

(45-64 years) developing Type 2 diabetes than the elderly (≥ 65 years). Individuals developing diabetes at a younger age will experience the condition in some of the most productive years of their lives, and have more years to develop its possible complications (King H, Aubert RE, & Herman WH 1998).

In the UK, Type 2 diabetes affects about 3.86 per cent of the population, therefore the known diagnosed population is now 2.5 million people (Diabetes UK 2008) although the prevalence of Type 2 diabetes is much higher in people from socially disadvantaged groups and minority ethnic groups, especially those from the South Asian community, who suffer disproportionally from Type 2 diabetes (Department of Health 2001b). The prevalence in South Asian immigrants to Britain has been found to be 20-30% in the 40-75 year age group (McKeigue PM et al. 1988), figures which are now starting to be found in studies in developing countries for migrants from rural to urban environments (O'Rahilly S 1997). In Tower Hamlets, East London, the incidence and prevalence of Type 2 diabetes is higher than the rest of the country with a raw prevalence of 4.4% and 10,161 patients on primary care diabetes registers across the borough (Department of Public Health 2007). Modelled estimates give a total figure of 12,000 diabetics in Tower Hamlets indicating 15-20% of diabetics are currently undiagnosed and with current obesity trends there will be an estimated further 3500-4000 diabetics by 2012 (Department of Public Health 2007). This is a reflection of the large South Asian population which represents 36.6% of the total population, 91% of whom are Bangladeshi (Tower Hamlets Primary Care Trust 2002).

3.2.1.1 Beliefs and values

The epidemic of Type 2 diabetes in the UK, particularly amongst ethnic minority communities and the socially disadvantaged, and globally in many developing countries, represents an enormous social and public health problem which will have an unacceptably high burden on individuals, communities and states. Poverty is now being seen as an indisputable contributor of illness and disease (McMichael T 2001) which would seem to illuminate the fact the development of conditions such as obesity and Type 2 diabetes, can no longer be deemed a diseases of affluence. The opinion that nothing can be done to prevent the rise in non-communicable chronic diseases, such as diabetes, is often based on the premise that it is simply caused by the unhealthy lifestyles that people have 'chosen' to have. Individual behaviour however is socially and culturally determined, or as noted by Pat Caplan: *"Food is never 'just food' and its significance can never be purely nutritional"* (Caplan P 1997). The application of the hot and cold food classification system prevalent in South Asia for example, while likely to vary between individuals due to differences in understanding and economic means, may mean that conventional nutritional counselling is ineffective among those who follow this belief and reject scientific values – at least those in relation to food choice. Compartmentalisation of beliefs may lead to acceptance of some aspects of western recommendations but rejection of others, just as we may find the consumption of certain foods acceptable for special occasions but reject them as unhealthy on a day-to-day basis. The rejection of recommendations therefore may not be due to individuals not wanting to make changes but rather the recommendations not being compatible with their beliefs, therefore dietitians and other health professional would need to understand lay ideologies and adapt their

techniques accordingly (Fieldhouse P 1995). Human behaviour is influenced by a range of factors, including environmental and economic pressures, which impact on food choices and physical activity (or inactivity). And as noted previously, at least 80% of diseases such as Type 2 diabetes, heart disease and stroke (Epping-Jordan JE et al. 2005) could be prevented through regular diet, physical activity and cessation of tobacco. For programmes to be successful however we will need a combination of the individual approaches, together with population-based and macroeconomic interventions (Strong K, Mathers C, Leeder S, & Beaglehole R 2005) but it is the later approaches that are often neglected.

Dominant explanations for the rapidly increasing epidemic of obesity and Type 2 diabetes – *diabesity* - across the world are the *nutrition transition,* as already alluded to, described by Barry Popkin (Kim S, Moon S, & Popkin B 2001), the *thrifty genotype* hypothesis introduced by Neel (Neel JV 1962) and the more widely accepted *thrifty phenotype* (foetal origins) hypothesis proposed by Barker and Hales (Barker DJP (ed.) 2001;Hales CN & Barker DJP 1992), all of which can be seen as related when a structural viewpoint is adopted. More recently a life course approach to chronic disease epidemiology is being sought, describing a model of evolution for the development of insulin resistance and Type 2 diabetes which incorporates foetal, postnatal and adult components. Common across all of these theories is the tendency for those with a poorer social status to be more severely effected, leading to the distinct inequalities in health seen both within and between countries. Section 3.3 provides a review of the dominant theories behind the rise in non-communicable diseases in developing and developed societies across the world.

3.3 Explanations for nutrition-related non-communicable diseases – The biological determinants

3.3.1 The Challenge of Nutrition: in prevention and causality

It is necessary to make constant decisions about what to eat, how much to eat, where to eat it, and when to eat it again, ideally achieving a balance between the nutrient supply and our nutrient requirements. Looking at the nutrient supply, food varies in the both the quantity and quality of what is available, with often changing availability over time. We have multiple nutrient requirements, both the macronutrients: protein, fat and carbohydrates (and alcohol); and the micronutrients: vitamins and minerals; all of which interact in different ways. Furthermore, these requirements are not stable, with amounts changing across our lifetime as a result of, for example, reproduction, aging and activity (Simpson S & Raubenheimer D 2005). Both the balance and type of macronutrients in the diet have been extensively studied in order to assess their relation to the risk of the chronic nutrition related non-communicable diseases such as Type 2 diabetes, insulin sensitivity, coronary heart disease, obesity and some cancers (Australian Government Department of Health and Aging, National Health and Medical Research Council, & Ministry of Health in New Zealand 2006). Macronutrients, unlike the micronutrients, all contribute to daily energy intake, and for any given energy intake, as the proportion of one macronutrient increases, the proportion of one or more of the other

macronutrients needs to decrease(Australian Government Department of Health and Aging, National Health and Medical Research Council, & Ministry of Health in New Zealand 2006). Regarding the type, considerations also needs to be given such as whether the fat is saturated, polyunsaturated or monounsaturated or a specific fatty acid such as omega-3; or whether the carbohydrate is in the form of a starch or sugar, or, has a high or low glycaemic index. There are a range of nutrient intakes which appear to be acceptable for the majority of the population and suggest a diet high in carbohydrate, approximately 45-65% of total energy intake, fat 15-35% total energy and protein 10-15% total energy (Department of Health and Human Services (HHS) and the Department of Agriculture (USDA) 2005;Food Standards Agency 2000;WHO/FAO 1998;World Health Organisation 2003b). Table 3.3 summarises the WHO/FAO intake goals specifically. Most recently the National Health and Medical Research Council of Australia (NHMRC) released new Nutrient Reference Values for Australia and New Zealand (Australian Government Department of Health and Aging, National Health and Medical Research Council, & Ministry of Health in New Zealand 2006). These guidelines now specifically make recommendations in order to reduce chronic disease risk.

Dietary factor	Goal (% of total energy, unless otherwise stated)
Total fat	15–30%
Saturated fatty acids	<10%
Polyunsaturated fatty acids (PUFAs)	6–10%
n-6 Polyunsaturated fatty acids (PUFAs)	5–8%
n-3 Polyunsaturated fatty acids (PUFAs)	1–2%
Trans fatty acids	<1%
Monounsaturated fatty acids (MUFAs)	By difference[a]
Total carbohydrate	55–75%[b]
Free sugars[c]	<10%
Protein	10–15%[d]
Cholesterol	<300 mg per day
Sodium chloride (sodium)[e]	<5 g per day (<2 g per day)
Fruits and vegetables	⩾400 g per day
Total dietary fibre	From foods[f]
Non-starch polysaccharides (NSP)	From foods[f]

[a] This is calculated as: total fat – (saturated fatty acids + polyunsaturated fatty acids + trans fatty acids).
[b] The percentage of total energy available after taking into account that consumed as protein and fat, hence the wide range.
[c] The term "free sugars" refers to all monosaccharides and disaccharides added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups and fruit juices.
[d] The suggested range should be seen in the light of the Joint WHO/FAO/UNU Expert Consultation on Protein and Amino Acid Requirements in Human Nutrition, held in Geneva from 9 to 16 April 2002 (*2*).
[e] Salt should be iodized appropriately (*6*). The need to adjust salt iodization, depending on observed sodium intake and surveillance of iodine status of the population, should be recognized.
[f] See page 58, under "Non-starch polysaccharides".

Table 3.3 Ranges of population nutrient intake goals
(World Health Organisation 2003b)

The human nutritional environment has changed considerably, and at an unprecedented rate, especially in the last two generations, in terms of the history of human evolution. The first major transition occurred with the agricultural revolution 10 000 years ago, following the Palaeolithic era, seeing a large increase in the quantity of starch in the diet; protein may have been limited

at this time as well as being micronutrient imbalances, consequently peoples stature was generally small, lean and less healthy. The industrial revolution, with its bulk refining and efficient transport of sugar saw a further increase in carbohydrate intake; people around this time tended to remain small and lean with only the few wealthy being corpulent. Another major nutritional transition occurred between world wars I and II, and finally today, where we have unprecedented access to a wide variety of food and nutrients, and a consequence often live longer but also experience high rates of overweight or obesity and suffer from the associated nutrition-related non-communicable diseases (Simpson S & Raubenheimer D 2003). Figure 3.2 provides an illustration of changes in diet and health across the time line. At the same time as these dietary rapid changes towards freely available, energy dense foods, there has been a reduction in the incidental physical activity associated with day-to-day living and survival, and as noted by Andrew Prentice (Prentice A 2004), as inactivity reduces, weight increases which then reduces the inclination to exercise and make the necessary changes to lose weight, thus a vicious cycle rapidly begins. Moreover, while these large nutritional changes have been progressing at an ever more rapid pace, our physiology over the same time remains largely unchanged (Simpson S & Raubenheimer D 2003).

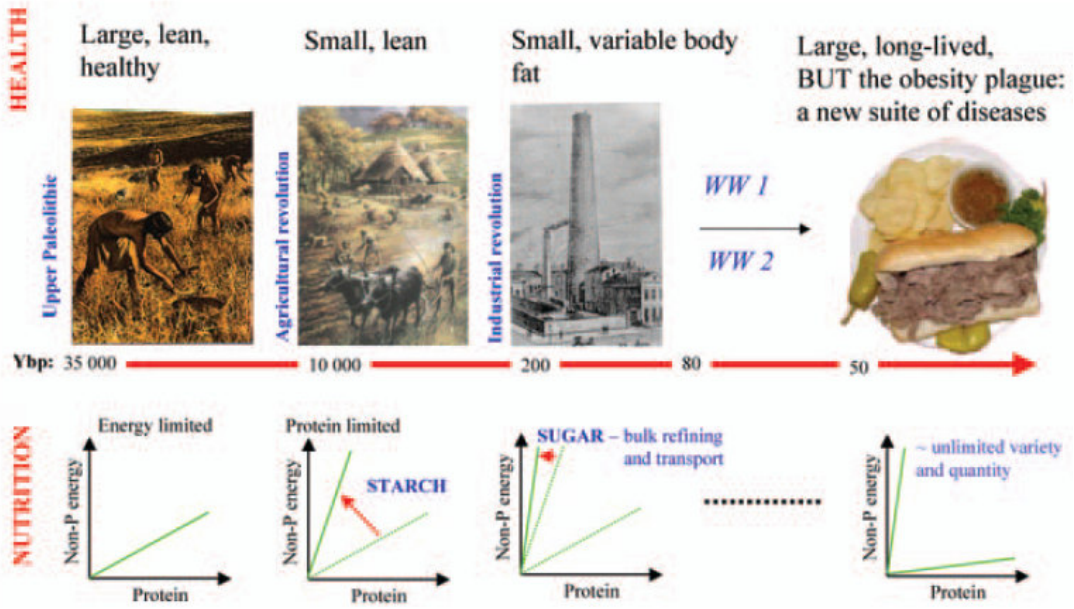


Figure 3.2 **A summary timeline for the changing nutritional environment since Palaeolithic** (Simpson S & Raubenheimer D 2003)

The following section details the Palaeolithic diet and the substantial dietary changes which have occurred through the agricultural and industrial eras.

3.3.2 Hunter-Gatherer Diet –Palaeolithic diet

The hunter-gatherer lifestyle that sustained humanity for all but the last 10 000 years (Palaeolithic archaeological period) was significantly different to that of more modern agrarian communities, with the former having a diet dominated by wild game meats and fibrous plant

foods, and the latter by cultivated cereals, lentils and tuberous vegetables, and whole milk. Hunter-gatherer diets most plausibly are thought to have a higher proportion of protein, ranging from 19-35%, a fat intake 28-58% (with relatively high levels of mono- and poly-unsaturated fatty acids and a lower omega-6 to omega-3 fatty acid ratio) and a carbohydrate intake of 22-40% (Cordain L et al. 2000). While there was no universal diet, there were universal characteristics to all Hominine diets compared to what is eaten now. Foods such as dairy products, cereals, refined sugars, refined vegetable oils and alcohol, which make up 72.1% of the total daily energy intake consumed by people in the United States, would have contributed negligible or none of the energy in a Palaeolithic diet (Cordain L, Brand-Miller J, Eaton SB, Mann N, Holt SHA, & Speth JD 2000;Cordain L et al. 2005). For the hunter-gatherer populations, the hypolipidemic effects of the high dietary protein and relatively low level of carbohydrate in the diet, together with the more favourable fat profile, would have served to inhibit the development of cardiovascular disease (Cordain L et al. 2002). The high intake of antioxidants, phytochemicals, fibre and vitamins from the higher intake of plant-based foods, together with a low salt intake, and the more positive lifestyle factors of increased amounts of physical activity, reduced stress levels and no smoking, would further deter the development of CVD (Cordain L, Eaton SB, Brand-Miller J, Mann N, & Hill K 2002). Furthermore, natural selection would have favoured efficient gluconeogenesis to cope with the seasonal reliance on high animal protein / low carbohydrate / moderate fat diets (Lieberman LS 2003). The modern day multifactorial dietary changes have resulted in nutritional factors which universally have been found to underlie or exacerbate the chronic diseases present in modern society. Specifically: increased glycaemic load; altered fatty acid composition, micronutrient density, macronutrient composition; acid-base balance and sodium-potassium ratio; and reduced fibre content (Cordain L, Boyd Eaton S, Sebastian A, Mann N, Lindeberg S, Watkins B, O'Keefe JH, & Brand-Miller J 2005).

3.3.2.1 The Glycaemic Index

The increased reliance on carbohydrate foods by modern communities, many being either mashed or ground, has led to a significant increase in the glycaemic index (GI) and glycaemic load (GL) of the diet. Grain foods for example, which wouldn't have been eaten in Palaeolithic diets, make up approximately 24% of the American and Australian diet current; 85% of which is as refined grains (Cordain L 1999;Cordain L 2005;Gerrior S & Bente I 2002).

The GI is a quantitative assessment, indexing the glycaemic response of a fixed amount of available carbohydrate. Carbohydrate foods with a low GI are digested more slowly than those with a high GI and thus result in a reduction in both postprandial blood glucose levels and insulin response (Jenkins DJA et al. 2002). Factors which influence the GI of a carbohydrate food include the amount of carbohydrate, the type of sugar (glucose, fructose, sucrose, lactose), nature of the starch (amylase, amylopectin, resistant starch), cooking (degree of gelatinisation), food processing (particle size), physical form of the food (fibrous coat around beans), as well as other food components such as fat and protein which can slow the digestion of the starch (American Diabetes Association 2002;Jenkins DJA, Kendall CWC, Augustin LSA, & et al

2002;Leeds A et al. 1996). The glycaemic load (GL) represents both the quality of the carbohydrate food (the glycaemic index) as well as the quantity of that food (weight). Substantial evidence is accumulating which shows that chronic consumption of high glycaemic carbohydrate foods can adversely effect metabolism and health (Cordain L, Boyd Eaton S, Sebastian A, Mann N, Lindeberg S, Watkins B, O'Keefe JH, & Brand-Miller J 2005;Cordain L, Eades MR, & Eades MD 2003;Liu S & Willett WC 2002;Ludwig DS 2002). In recent years, high glycaemic index diets have been shown to lead to increased pressure on the pancreas to produce insulin and a consequent reduction in insulin production. (Augustin L S et al. 2002;Jenkins DJA, Kendall CWC, Augustin LSA, & et al 2002;Willet W, Manson J, & Liu S 2002). This chronic hyperinsulinaemia and hyperglycaemia caused by high GI diets may illicit hormonal and physiologic changes thereby promoting insulin resistance (Cordain L, Boyd Eaton S, Sebastian A, Mann N, Lindeberg S, Watkins B, O'Keefe JH, & Brand-Miller J 2005;Cordain L, Eades MR, & Eades MD 2003;Liu S & Willett WC 2002;Ludwig DS 2002) which as noted previously, is present in and precedes the development of Type 2 diabetes in the majority of cases (Stern MP 1997). Further diseases of insulin resistance include: coronary heart disease, hypertension and dyslipidaemia (Cordain L, Boyd Eaton S, Sebastian A, Mann N, Lindeberg S, Watkins B, O'Keefe JH, & Brand-Miller J 2005). As noted previously, these diseases of insulin resistance are virtually non-existent in hunter-gatherer and other non-Westernized societies consuming traditional diets (Cordain L, Eaton SB, Brand-Miller J, Mann N, & Hill K 2002;Cordain L, Boyd Eaton S, Sebastian A, Mann N, Lindeberg S, Watkins B, O'Keefe JH, & Brand-Miller J 2005;Eaton SB, Konner M, & Shostak M 1988;Trowell HC 1980). The consumption of low GI diets has been shown to be associated with a reduction in triglycerides and low-density lipoprotein (LDL) cholesterol, and a lower ratio of total to high-density lipoprotein (HDL) cholesterol. This positive effect on blood lipids suggests that these diets may be both protective against developing heart disease as well as managing existing cardiovascular disease (Bell S & Sears B 2003).

The discussion continues now with details of the current nutrition transition which is effecting populations across the world.

3.3.3 The Nutrition Transition and the Impact of Globalisation

The nutrition transition has been described by Barry Popkin, amongst others, as the impact of globalisation on our diet. The term ‘nutrition’ over ‘diet’ has been deliberately chosen to incorporate the effects of diet, physical activity and body composition, rather than focusing narrowly on dietary patterns and their consequent effects alone (Popkin BM 2002). The changes in dietary intake and lifestyle, and the prevalence of obesity, Type 2 diabetes, and other chronic non-communicable diseases, over the last one to two decades around the developing world have been occurring at a rapid pace, (Popkin BM 2002;Popkin BM & Gordon-Larsen P 2004) as a consequence of industrialisation, urbanisation, economic development and market globalisation. The pace of change is seen as quite different to what occurred is Western European countries, the United States and Japan when they were at a similar stage of economic development (Popkin BM 2001b;Popkin BM 2002) after World War II.

At the same time as, or proceeding, this nutrition transition we have seen two other closely related processes: the 'demographic transition' and the 'epidemiological transition'. The demographic transition describes *"the shift from a pattern of high fertility and mortality to one of low fertility and mortality"*; whilst the epidemiological transition describes *"the shift from a pattern of high prevalence of infectious disease – associated with malnutrition, periodic famine, and poor environmental sanitation – to one of high prevalence of chronic and degenerative disease – associated with urban-industrialised lifestyles"* (Popkin B 2003;Popkin BM & Gordon-Larsen P 2004). Abdel Omran first explicated this process in 1971 noting that the epidemiologic transition focused on changes in health and disease *together* with their interactions with their demographic, economic and sociologic determinants and consequences (Omran AR 2005). Omran (2005) further observed that the epidemiologic and demographic transitions and the 'technologic transitions' in the developing world, paralleled that which had already occurred in the developed countries. Figure 3.3 looks at the relationship between the demographic, epidemiological and nutrition transitions.

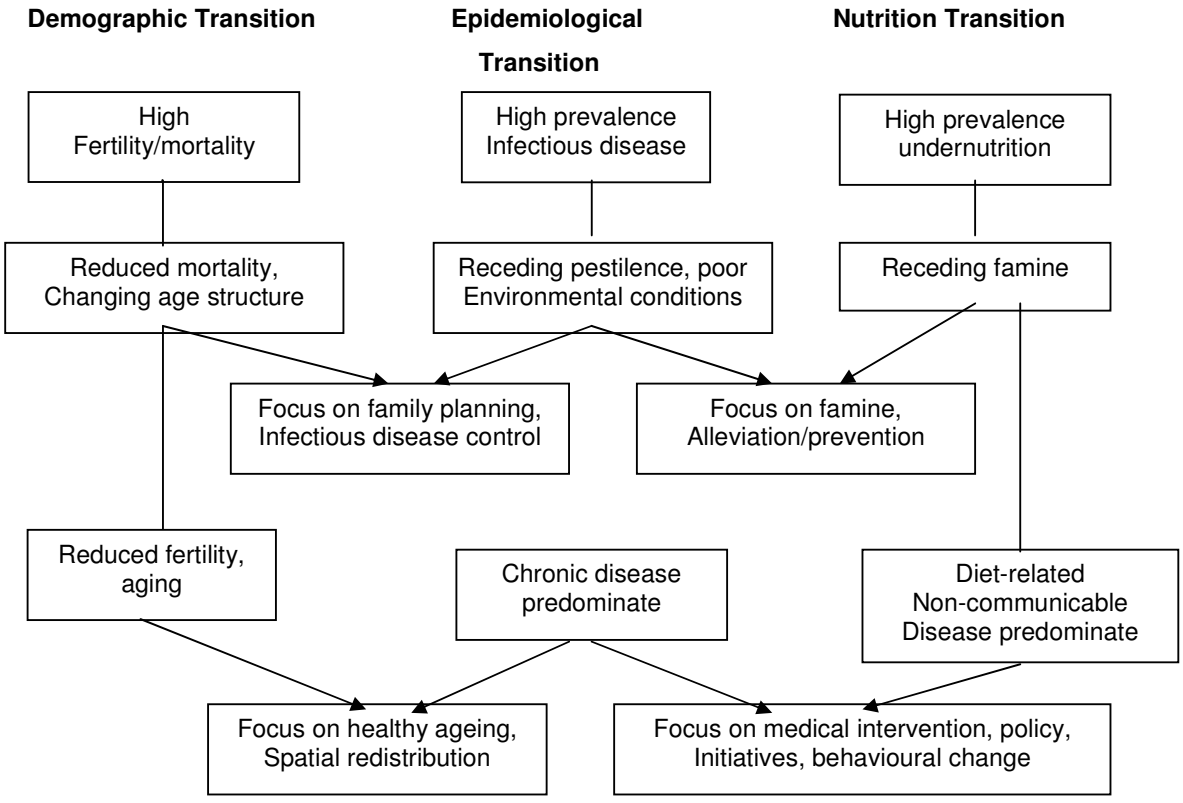


Figure 3.3 Stages of health, nutritional and demographic change
(Popkin BM 2001a)

The decline in infectious diseases and the rise in degenerative diseases became most distinct after World War I, but since 1945 there was a striking increase in cardiovascular deaths (Omran AR 2005).

3.3.3.1 The nutrition transition

Traditional food and food products, including street foods, have moved to more fast food, and from an essentially local market to an increasingly global one. The shifting dietary patterns, such as increased consumption of an energy-dense diet high in fat, in particular saturated fat, and low in carbohydrate, has been influenced by changes in the world economy. At the same time there has been a reduction in energy expenditure, associated with sedentary lifestyles, labour-saving devices (both at home and work), motorised transport, and leisure activity that is often dominated by physically undemanding pastimes e.g. watching TV (WHO 2003a). Fieldhouse described the changes succinctly:
"Urbanisation, the rise of agribusinesses and the growing impact of international trade in foodstuffs have undermined the ability of people to practise self-sufficiency in meeting their food needs. The complex cash-based food system of modern industrialised nations removes most people from a direct role in food production and puts them at the mercy of an intricate food distribution network." (Fieldhouse P 1995).

Further research is required into how urbanisation and globalisation is affecting global populations and low-income groups (Mendez MA & Popkin BM 2004), although there are a number of reasons already put forward. The technological advances following the industrial revolution led to massive changes in food production and manufacturing. There is a move away from high-energy activities such as farming to an environment with improved transportations systems. Across populations, including increasingly in the developing countries, we now have access to a varied and more tasteful diet, and the less burdensome work pattern is an important choice desired by most individuals. There is also access to larger modern supermarkets with their larder of readily available processed foods (Popkin B 2003;Popkin BM & Gordon-Larsen P 2004;Popkin BM & Nielsen SJ 2003). The choices being made, while not necessarily always positive in their effects, are rational based on innate desires. As incomes increase, there are changes in consumption patterns, with higher fat foods which were previously inaccessible, being purchased. Furthermore globalisation of the food supply chain has lead to a greater range of food choices as a consequence of a long-term reduction in the real costs of basic commodities. The resultant changes in household purchasing, preparation and eating behaviour matter greatly. Another major contributor to the changes occurring is the increased TV ownership and therefore exposure to the centralized mass media and the generation of major pushes to promote selected dietary patterns, especially 'value added' (manufactured) food items, directly and indirectly via the media. There is however little vigorous analysis looking at the effect of mass media and consumption in the developing world, and in the developed countries most food manufacturers continue to downplay the effect of advertising and 'branding' on the populations choices; especially its effects on children's food choices. Western-style fast food outlets are also now permeating the developing world although we do not know how these effect food production and consumption (Popkin B 2003).

As a consequence of these substantial diet and lifestyle changes, there has been an increase in diet-related disease such as obesity, Type 2 diabetes, cardiovascular disease, hypertension and a number of different cancers, as well as changes in average stature and body composition (Popkin BM & Gordon-Larsen P 2004). These diseases are increasingly becoming the significant causes of premature death across the world and are taking over from the more traditional public health concerns of malnutrition and infectious disease. In the developing world they face the dual burden of health systems having to try and tackle the impacts of both under- and over-nutrition and their consequences. The nutrition transition, the third part of the triad following the epidemiological transition described previously, and which in fact overlaps with the epidemiological transition, is a process where as incomes begin to rise, famines recede with the emergence of degenerative disease and finally the behavioural changes that will lead to an extension of health in aging; see figure 3.4.

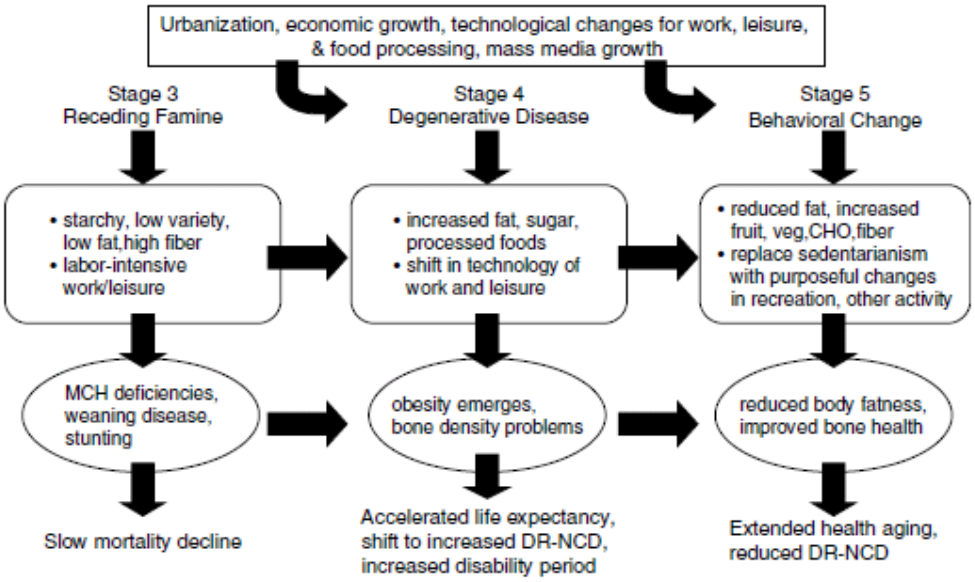


Figure 3.4 **Stages of the nutrition transition**
(Popkin BM & Gordon-Larsen P 2004)

Urbanization effects both economic and physical well-being. Less than one-third of the worlds population resided in urban areas about 25 years ago yet, in less than 25 years two-thirds of the world's population are anticipated to be living in cities (Hoffman DJ 2001). The World Urbanization Prospects: 2005 Revision (UN 2006) has noted the following variations between the more developed and developing regions of the world. In the more developed regions, urbanization is well advanced, where in 2005 almost three-quarters (74 per cent) of the population lived in urban settlements. This proportion is projected to increase to 81 per cent by 2030. The proportion urban in the less developed regions was lower in 2005 at 43 per cent, but it is anticipated to rise to 56 per cent by 2030. The urban population in more developed regions has seen minimal increases from 0.4 billion people in 1950 to 0.9 billion people by 2005. Over the next 25 years, the growth will be less pronounced, the urban population being projected to reach one billion in 2030. It is the less developed regions that will see the main increase of the urban population living in urban areas. In 2005, the urban population in less developed regions was 2.3 billion people, about 7 times larger than in 1950. Unlike developed regions, over the

next 25 years, the urban population is projected to continue to increase fast, reaching 3.9 billion people by 2030. Thus the interaction between income growth and urbanisation is a particularly important one in the developing world as it is there that will have the burden of the world population increase (Hoffman DJ 2001).

The nutrition transition is now able to occur at lower levels of gross national product (GNP), being further accelerated by the high rates of urbanisation. Changes in the food system, resulting from the increased global availability, particularly with respect to availability of cheap edible oils, sugar, and animal source fats and protein, that has led to increased consumption among low-income nations (Drewnowski A & Popkin B 1997;Popkin B 2003). Some cohorts, such as the Asian nations, are experiencing the impact of rapid changes in the food system as a consequence of globalisation and urbanisation, and the resultant improvements in food security and health, but the adverse effects of the nutrition transition are also occurring, and this is against a background of poor foetal and infant nutrition (implications to be discussed in upcoming sections). These populations are therefore left particularly susceptible to the consequences of the change, namely, the rapid rise in chronic non-communicable diseases (Drewnowski A & Popkin B 1997).

3.3.3.1.1 Dietary shifts: increased availability of oil, more added caloric sweeteners and more animal source foods

3.3.3.1.1.1 Edible Oil

In developing countries the nutrition transition is often associated with major increases in the domestic production and imports of oilseeds and vegetable oils (with the exception of groundnut oil). The production of visible animal fat however, such as butter and tallow, remains stable. The consumption of fat increases with income in both urban and rural populations.

3.3.3.1.1.2 Caloric Sweetener

There has been an enormous increase in caloric sweeteners worldwide, with marked shifts after world War II, a phenomenon noted often in the US but not clearly examined in other countries around the world (Drewnowski A & Popkin B 1997;Popkin BM & Nielsen SJ 2003). The most common sweetener is sugar, although there are a number of caloric sweeteners used today including high-fructose corn syrup, glucose, fructose, dextrose, and honey to name a few. In the U.S. fizzy drinks and sugared fruit drinks represent 80% of this increase in caloric sweeteners (Popkin BM & Nielsen SJ 2003). These drinks, together with desserts and confectionary, represent the four major sources of caloric sweetener in the U.S. diet (Popkin BM & Nielsen SJ 2003) and similar patterns are seen in other developed countries although comparisons are not possible due to lack of specific survey data (outside of the U.S.) in this area. Eastern Europe for example which is undergoing a transition of its food supplies, much as a result of Foreign Direct Investment (FDI) in the region, has seen 60% of this FDI in agri-food production going to sugar, confectionary and soft drinks (Dalmeny K, Hanna E, & Lobstein T 2003b). All measures of

caloric sweetener increase significantly with both the GDP per capita of the country and urbanization.

Overall, urban populations consume higher levels of fats and animal foods, along with lower intakes of vegetables when compared to their rural counterparts. The dietary effects of urbanization and globalization however appear to be penetrating into rural areas; marked increases in oils and animal source food consumption in rural areas has seen the disparity between urban and rural intakes has become smaller over time. This is particularly so for those rural areas which have become highly urbanised in terms of infrastructure and resources, with only the areas with very low levels of urbanicity maintaining traditional diets, low in fat and animal source foods (Mendez MA & Popkin BM 2004). The adverse dietary shifts that have been associated with urbanization are talking place at all levels of socio-economic status and have occurred along with reduced activity levels from sedentarism in occupational activity and commuting, as well as leisure time activity such as from increased television watching. Together the shifts are likely to be a contributor to the rising levels of obesity that are being observed in many developing countries, and increasingly in rural areas (Bell AC, Ge K, & Popkin BM 2002;Hu G et al. 2002;Mendez MA & Popkin BM 2004).

3.3.3.1.1.3 Animal Source Foods

There has been an increase in demand and production of meat, fish, and milk in low income and developing countries. Most of the growth in consumption is coming from the developing countries. It is anticipated that these countries will produce 63% of meat and 50% of milk in 2020 (Popkin BM & Gordon-Larsen P 2004). Globally, grain markets are being transformed for animal feed, leading to "*resource degradation, rapid increases in feed grain imports, rapid concentration of production and consumption and social change*" (Popkin B 2003;Popkin BM & Gordon-Larsen P 2004).

3.3.3.2 The Shifting Burden

The shifts originally began in the wealthier segments of the urban population, both in the developed and developing worlds, but it is now clear that the trends are affecting all segments of society. Today, the burden of the nutrition-related non-communicable diseases is falling more on the most deprived segments of the population across the world, with four-fifths of the worlds burden being placed on low- and moderate-income countries (Popkin BM 2001a). It is in these countries that the rate of change towards obesity is greatest. The data available from China, amongst other developing countries, is a clear demonstration of the effect of the nutrition transition. For people belonging to lower socio-economic groups, also living in a low-income economy confers a strong protection against obesity (Popkin BM & Gordon-Larsen P 2004); possibly because mal – and under-nutrition is more of a threat. Living in lower-middle income economies can either reduce or increase the risk of obesity, that is there is no particular trend one way or the other being seen; being from lower socioeconomic groups however is a systematic risk factor for those living in upper-middle income developing countries (Popkin BM

& Gordon-Larsen P 2004). It is these deprived communities living in affluent societies that suffer disproportionally from ill-health and the NR-NCD's as shall be discussed in the upcoming section titled 'Social Epidemiology'.

3.3.3.3 Migration

In developed countries, the most deprived communities, often over-represented by black and ethnic minority groups, shoulder the burden of the high levels of overweight and obesity, and other nutrition related noncommunicable disease. Migrant populations, have to varying degrees, been shown to adopt the dietary and lifestyle patterns, as well as the socio-cultural practices, of the indigenous population and consequently to acquire the disease patterns similar to those in the host country (Shetty PS 2002). Studies also provide evidence that some populations have genetic predispositions to the risk of early onset adult nutrition related non-communicable diseases following migrations and acculturation to a new environment (Shetty PS 2002). Strong examples of the significantly increased risk (compared to the European population) of Type 2 diabetes and coronary heart disease (CHD) can be seen amongst migrants from the Indian sub-continent to the UK, such as the Bangladeshi community. As noted in chapter 1, the incidence and prevalence of Type 2 diabetes in the Bangladeshi population of Tower Hamlets East London, is significantly higher than the rest of the country (Department of Public Health 2007).

The considerable diet and lifestyle changes effecting the Bangladeshi population in Tower Hamlets result from moving from a predominantly rural farming environment with access to only basic - and often limited - food stuffs, to a modern urban environment where food is more plentiful - including foods of 'affluence'- together with significantly reduced labour requirements. But many migrant households in the UK still face a degree of household food insecurity coupled with an energy imbalance, and have moved from a position of absolute poverty to one of relative poverty, the significance of which will be shortly discussed in detail. When looking specifically at dietary patterns of British Bangladeshis however there are difficulties assessing their impact on the development of nutrition related non-communicable diseases, as the studies which have been done, both large and small, often group different ethnic groups together, such as 'South Asian', which covers a wide group of populations from the sub-continent, which experience different social factors, have different religions, and variable dietary habits and cooking methods (Landman J & Cruickshank JK 2001). It is also unfortunate that the larger Diet and Nutrition Surveys and the National Food Surveys which are the foundation of UK's national food and nutrition surveillance, have not measured food and nutrition consumption or nutritional status in representative samples of ethnic minority groups (Landman J & Cruickshank JK 2001). Of the studies that have been done in the UK, (Greenhalgh T 1997;Kooner J & Chambers JC 2004;Sevak L, McKeigue PM, & Marmot MG 1994) they have shown that dietary intakes of total and saturated fat in the South Asian population do not differ from the remainder of the population, giving weight to the proposal that it may be the change in diet and activity, which differs from the pre-migration experience, that has unmasked the predisposition for nutrition related chronic diseases such as CHD and Type 2 diabetes. But despite this apparently healthy

pattern in terms of polyunsaturated: saturated fat intake, as well as fibre, fruit and vegetable consumption in these former migrant communities, there is some ambiguity as to the adequacy of the dietary methods that have been used to assess the amount of fats and oils used in cooking, or added to bread and snacks (Landman J & Cruickshank JK 2001). Also, the re-use of oils, a common practice in the poorer households in the Bangladeshi community, can possibly lead to the creation trans-isomers as well as oxidising of the fatty acids (Landman J & Cruickshank JK 2001). The former has the same atherogenic characteristics of saturated fatty acids, and the later increases risk of some cancers. Another study of South Asians migrants to Scotland however has shown that while adverse dietary elements may develop in the first generation, they are then modified in subsequent generations (Anderson AS, Bush H, Lean M, Bradby H, Williams R, & Lea E 2005) although there is also evidence that second generation migrants are more likely to adopt poor Western patterns of diet (Landman J & Cruickshank JK 2001;Mannan N & Boucher BJ 2002).

3.3.3.4 Developed countries and the nutrition transition – specific issues

In developed countries such as the USA, UK and Australia, the dietary changes are complex with daily caloric intake increasing through the consumption of more energy-dense, nutrition-poor foods; an increase in high fat and salty snack foods; an increase in eating away from the home; an increase in portion sizes and added caloric sweeteners (Bray GA, Nielsen SJ, & Popkin BM 2004;Nielsen SJ & Popkin BM 1998;Popkin BM & Gordon-Larsen P 2004;Popkin BM & Nielsen SJ 2003). Nutritionally sound diets cost more thus those from lower socio-economic groups are more likely to have these nutrient poor diets (Caraher M & Coveney J 2003). At the same time though, for those members of the populations that are from the higher socio-economic groups, a point of both adequacy and prudence has been reached with the 'optimal' diet people aspire to being one which reduces the risk of the nutrition related non-communicable diseases. In the US for example there is a reduced intake in both meat and fat which is inversely related with socio-economic status (Vorster HH et al. 1999).

The fast pace of modern lifestyles with longer working hours, an increase number of single-person households and one-parent families and women now more often working outside of the home, have fuelled the demand for convenient and enjoyable foods, and while there may be an awareness of the connection between food and health, there is less time available for cooking (European Food Information Council (EUFIC) 2005). And, there is of course a naturally strong preference amongst many for high fat, salt and sugar foods (Nestle M 2003), a preference that can also be developed by exposure to these foods. The change in nutritional intake and dietary patterns is thus a natural, possibly adaptive, response to an unnatural environment. People make food choices within the context of the social, economic and cultural environment in which they live, and as physiological needs are met, personal preference becomes a major determinant of food choice along with religion and other cultural factors and, convenience, price and nutritional value(Nestle M 2002).

An area, where there has often been inadequate focus, is that of changes in the food system, such as production, manufacturing and government policies, that can promote over-consumption. An overabundant and overmarketed food supply has led to an increase in the amount of food sold and consumed at any one time (Nestle M 2002;Nestle M 2003). The food industry has become highly successful resulting in the 20th century trend of moving from small farms to giant corporations; from cooking at home to buying pre-prepared or eating away from the home and from foods which are locally grown to those which are transported over long distances (Nestle M 2002). Food companies focus on *value-added* products, rather than fresh fruit and vegetables where adding value is limited. Government policies which tend to support larger corporate farming drive the trend towards larger portions which of course the consumer sees as bargains. For the food industry, only a small percentage of the money spent on food goes back to the producer with more than 80% paying for the labour, packaging, and advertising - which far exceeds any efforts at promoting fruit and vegetables, i.e. adding value (Nestle M 2003). Any marginal cost therefore, of purchasing the raw products is offset by the increase in consumer spending on the value added end product (Nestle M 2002). This trend to the availability or more, cheap, food and the consequent large portion sizes, is part of the Nutrition Transition. For those who speak out against the food companies and these policies however, they are criticised as being food police and supporting a 'nanny' state. The financial power wielded by these companies is used to influence governments, together with nutrition and health experts, as well as to block any unfavourable court decisions (Nestle M 2002).

The trend towards the large portion sizes and high energy density, especially for foods consumed away from the home, is now being seen as a major contributor to the obesity epidemic (Young LR & Nestle M 2002) which has increased at an astounding rate within the past decade, as graphically illustrated by the, year by year, obesity trend maps produced by the National Obesity Observatory in England (National Obesity Observatory 2009) and Centres for Disease Control and Prevention in the US (CDC 2006). In America there has been an increase in the percentage of the money spent on food away from the home from 26% to 40% between 1970 and 1996, with the majority of calories in away-from-home foods coming from fast foods (Lin B-H, Guthrie J, & Frazão E 1999). In the UK, since 2001 the Family Spending and Family Expenditure Survey began collecting data related to food and drink purchased outside the home where an increasing trend was initially seen. In 2007 the percentage spent on food outside the home was 31%. Since 2004-05 however eating out is reducing in terms of quantities eaten out; almost all purchases of food and drink eaten out of the home have fallen since 2004-05 with expenditure on eating out has falling by 8.7% in real terms (A National Statistics publication by Defra 2008). The increased consumption of foods away from the home, and pre-made convenience foods, results in consumers being exposed to larger portion sizes (Ledikwe K et al. 2005); the trend is being seen in a number of developed countries, apart from the US, such as Australia (Volker D 2004) and Denmark (Matthiessen J et al. 2003). A number of studies (Diliberti N et al. 2004;Ledikwe K, Julia A, Ello-Martin J, & Rolls BJ 2005;Nestle M 2003;Nielsen SJ & Popkin BM 1998;Volker D 2004;Young LR & Nestle M 2002) have looked at the changes in portion sizes. One study compared the portion sizes of purchased foods to those from the National Nutrition Survey of 1995 finding that pre-packaged supermarket foods, such as

lasagne and pizza, ranged from 10% to 294% greater, and point of sale meals such as hot chips and hot pasta alfredo, ranged from 113% to 694% (Volker D 2004). The largest portion sizes for most foods are being found in fast food establishments (as are the majority of calories), which may be related to 'value adding' pricing practices, offering larger sizes and a marginally increased cost, and in some circumstances, actually being cheaper to eat than the smaller portions (Lin B-H, Guthrie J, & Frazão E 1999;Nielsen SJ & Popkin BM 1998). Of further concern is the apparent unawareness of the consumer to the increased portion sizes and the ability to consume larger amounts, while at the same time having a similar rating for hunger and fullness after eating (Ledikwe K, Julia A, Ello-Martin J, & Rolls BJ 2005). This unawareness of changes in the amount of food offered and the subsequent effect on intake, hunger and satiety occurs in controlled laboratory settings where there is a focus on eating. In a social situation therefore, such as eating out, where there is likely to be greater distractions, it would seem even more likely that people would be unaware of portion sizes (Ledikwe K, Julia A, Ello-Martin J, & Rolls BJ 2005). In fact, a study (Diliberti N, Bordi PL, Conklin MT, Roe LS, & Rolls BJ 2004) undertaken in a naturalistic setting (restaurant), the researchers found that increases portion sizes resulted in increased energy intake, with the customers not differing in their rating of the amount of food eaten compared to their usual intake. Of note however was the perceived feeling of 'value' when the larger portions size was purchased (for the same price), that is, there was an awareness of the portion size in relation to a given cost, but not in the amount they consumed. There is also a lack of meal-to-meal compensation when larger portions of extra snacks are taken, that is, intake is not adjusted at subsequent meals to compensate for this increased energy intake (Diliberti N, Bordi PL, Conklin MT, Roe LS, & Rolls BJ 2004;Ledikwe K, Julia A, Ello-Martin J, & Rolls BJ 2005). Furthermore, there seems to be a lack of understanding that larger portion sizes contribute more calories, that is, people view a fizzy drink as a fizzy drink, regardless of the size, and can be astounded at the differences when advised (Nestle M 2003). In saying this though, increased portion size does not automatically mean that there has to be an increase in the caloric content, if the energy density of the meal is taken into consideration. It is true that consuming the large portions of high energy density foods contributes to excessive energy intakes, however, consumption of large portions can also decrease energy intake if the food eaten has a low energy density, for example, by consuming salad with a meal (Ledikwe K, Julia A, Ello-Martin J, & Rolls BJ 2005). Even for health professionals, such as Dietitians, there seems to be an issue with estimating appropriate portion sizes, with older dietitians in particular having difficulty estimating portion sizes from bulk items (Diliberti N, Bordi PL, Conklin MT, Roe LS, & Rolls BJ 2004;Volker D 2004). Researchers also can fail to recognise that the portions people eat may be much larger than the portion sizes indicated on food labels, food frequency questionnaires or dietary guidance material (Diliberti N, Bordi PL, Conklin MT, Roe LS, & Rolls BJ 2004;Nestle M 2003). It would seem plausible therefore, that the food industries impact - whether intentional or not - on an individual's knowledge of what is an appropriate amount to eat is quite far reaching, as a consequence of the increased consumption of foods away from the home, pre-made convenience foods, and the resultant exposure of the population to larger portion sizes, together with the failure of some health professionals and researchers to recognise this increase in portion sizes.

3.3.3.5 Physical Activity

At the same time as there has been significant dietary changes there has also been large changes in the levels of physical activity. Historically, human survival has been dependent on the procurement of food, which in turn was dependent on physical activity. Modern, sedentary populations have been estimated to have an energy output of only 50-65% of a hunter-gathering lifestyle (Lieberman LS 2003) and particularly over the past 100 years, have seen substantial reductions in activity levels at the same time as there has been increased food availability (Diamond J 2003). And, while we have evolved to expect a certain amount of energy expenditure, we may be predisposed to eat that amount, even if it is not used (Simpson S & Raubenheimer D 2005).

According to the National Health Interview Survey (NHIS) and the Behavioural Risk Factor Surveillance System (BRFSS) in the US, only about 22% of adults met the recommendation of sustained light-moderate intensity activity for 30 minutes a day (US Department of Health and Human Services 1996). In England, the Health Survey for England is used as the primary source to measure progress towards achieving physical activity guidelines[9]. The latest available information shows that for both men and women, the proportion achieving the physical activity recommendations (undertaking a minimum of 30 minutes of at least moderate intensity activity at least five days a week) is 40% for men and 28% for women in 2006, increasing from 32% and 21% in 1997 respectively; the proportion for both decreasing with age (Joint Health Surveys Unit 2008;The NHS Information Centre 2009). The main findings of an earlier survey published in 1995, the Allied Dunbar National Fitness Survey 1990[10], reported that 7 out of 10 men and 8 out of 10 women fell below their age appropriate activity level necessary to achieve a health benefit. The survey also reports declining activity levels with increasing age, particularly for men, similar to patterns in the HSE 06 (Sports Council and Health Education Authority 1995).

3.3.4 Thrifty genotype

The thrifty genotype refers to a gene(s) that must have originally favoured survival at times of feast or famine (Neel JV 1962) where populations were likely to have undergone cyclic episodes of severe resource deprivation. Genes that today still have a normal function but have been compromised by a dramatically altered environment resulting from technological advances (Neel JV 1999). In times of 'feast' there was likely a more efficient handling of excess calories due to hyperinsulinaemia, while in times of famine and relatively higher physical activity, individuals would draw upon their energy stores(in the form of adipose tissue). When individuals are in energy balance, that is, energy input is equivalent to output; those with a thrifty

[9] Among adults, high activity levels are defined as 30 minutes or more of moderate intensity physical activity on at least 5 days in the last week, this matches the government recommendation. Medium activity levels are 30 minutes or more of moderate intensity physical activity on 1 to 4 days in the last week and low activity levels are defined as those that are active at a lower level or not active at all.

[10] The Allied Dunbar National Fitness Survey 1990, measured physical activity patterns and fitness levels of adults in England. Similar to the HSE, the survey measured levels of participation in sport and active recreation, housework, DIY and gardening in the previous four weeks. Activities were classified as either light, moderate or of vigorous intensity. Physical activity targets were defined for different age groups based on varying levels of intensity and activity, which lasted 20 minutes or more.

genotype would neither be at a selective advantage or disadvantage. At times of chronic energy excess, thrifty genotype individuals may process the excess calories more efficiently due to chronic hyperinsulinaemia, leading these individuals to be predisposed to obesity (lipogenesis), Type 2 diabetes (insulin resistance) and cardiovascular disease (hypertension) (Chakravarthy MV & Booth FW 2004;Neel JV 1962). In hunter-gatherer and early agrarian societies, the prevalence of Type 2 diabetes is estimated to have been 1.1% (Diamond J 2003), compared to an expected prevalence of diabetes in adults (20-79yrs) worldwide of an estimated 6.0% in 2007 and rising to 7.3% by the year 2025 (International Diabetes Federation 2006). This epidemic increase has mostly occurred over the past 40 years and is thus for many thought to be due to environmental modulation of existing diabetes susceptible genes (Diamond J 2003). The genes are having to function in an environment different from when they evolved and in some individuals with particular gene combinations, are having difficulty coping – they are *mal*adapted (Neel JV 1999).

The high rates of Type 2 diabetes in some populations, such as Australian Aboriginals, Pima Indians in Arizona, South Asians in the UK and the South Pacific Nauruans, has been thought to be as a consequence of exposure to a Western lifestyle and dietary abundance rendering the thrifty genotype detrimental by progress. There was a mismatch between our Pleistocene-attuned biology and current ways of life, with populations rather than cycling between feast and famine, found the process arrested at the point of permanent feast, causing these metabolically thrifty people to continue to store energy and eventually become obese (McMichael T 2001). What may also be of relevance is that previously diet changes occurred over a relatively longer period of time, despite them being significant, unlike communities in the developing world and those that are entering into an urban environment, who are experiencing a rapid lifestyle transition.

In light of these findings Neel revised his hypothesis in 1982 stating that there was a primary genetic defect leading to *selective insulin resistance,* arguing that this had evolved in primitive hunter-gatherers to enable optimal storage from the meat-based diet of the time (McMichael T 2001). An interesting case study is that of the Pima Indians. Those from Arizona, with partially western lifestyles display very high rates of Type 2 diabetes in contrast to those living in Mexico, with traditional agricultural lifestyles and low rates of Type 2 diabetes. A critical determinant in diabetes risk is the interaction between genetic predisposition and the environmental trigger (McMichael T 2001). Further work by Andrew Prentice it has been suggested that rather than a 'thrifty genotype rendered detrimental by progress', that an alternative, 'greedy genotype rendered detrimental by abundance', may be more appropriate however this is still being debated.

Much research is also being undertaken into determining which genes may be associated with obesity. The *ob* gene and the product leptin have proved most promising. Neel (1999) has reflected however that due to the rapid emergence of morbid obesity in many tribal cultures as they undergo dietary and lifestyle transition, that the human *ob* gene cannot usually be at fault for the increased prevalence of Type 2 diabetes; genes simply do not change that quickly.

3.3.5 Foetal malnutrition – thrifty phenotype

Populations commonly put forth as having higher "genetic" risks for the development of chronic diseases are also those that have a tendency to experience poorer social status and poor maternal nutrition (Oken E & Gillman MW 2003). The chronic disease epidemic has coincided with improvements in standards of living and nutrition; the greatest impact being in deprived areas of society. Barker observed that the most deprived areas had the highest rates of neonatal mortality and by inference the highest rates of low birth weight (Hales CN & Barker DJP 1992).

Poor maternal nutrition can lead to low birth weight, with the child potentially continuing to be exposed to inadequate nutrient intake early in life, especially for lower-income communities – as can be indexed by stunting (Power C & Parsons t 2000). If the individual is therefore programmed for poor early nutrient intake, they potentially would be put at risk if their food intake was subsequently increased to a level inappropriate for their programming, (Lucas A, Fewtrell MS, & Cole TJ 1999) predisposing the individual to obesity. In populations where we have seen shifts in the prevalence of obesity and Type 2 diabetes, they have also experienced famine in early life followed by significant dietary change and reduction in physical activity. Moreover, nutrition programmes that have been designed to prevent malnutrition may have the unfortunate negative side effect of at the same time promoting excess energy intake and thus obesity (Uauy R & Kain K 2002). These changes have been seen within a generation. Barker and Hales, from Southampton University in the UK, discount any genetic influence for the development of the chronic disease epidemic, including Type 2 diabetes, suggesting instead that they occur independently of predisposing genotype, and it is *in utero* factors leading to foetal malnutrition and permanent changes in the embryo or foetus and low birth weight (Hales CN & Barker DJP 1992). The concept of a 'thrifty phenotype' describes the metabolic adaptations adopted as a survival strategy by a malnourished foetus. Stimuli or insults that occur during critical or sensitive times in life have been shown to have lifelong consequences as a result of what has been termed "programming" (Lucas A, Fewtrell MS, & Cole TJ 1999). Foetal undernutrition in mid-to-late gestation in particular, may predispose the individual to central obesity and its related metabolic changes (Barker DJP 1995). There is also new evidence emerging that infancy may also be a period of high vulnerability, with fat metabolism being impaired to the extent that it could lead to obesity and other metabolic shifts later in life (Hoffman DJ et al. 2000b;Hoffman DJ et al. 2000a;Popkin BM 2002;Sawaya AL et al. 2003).

The adaptations made in utero to compensate for inadequate nutrition, by reducing the demand for nutrients, become detrimental in an 'obesogenic' environment. Infants who are stunted, that is have a length deficit, have lower basal energy expenditure and less lean body mass if compared to children with normal needs, therefore their energy needs are also reduced (Uauy R & Kain K 2002). Muscle deficiency as a result of being small and thin at birth persists during development, therefore if children gain excess weight during childhood, the result may be a disproportionally high fat to lean body mass and subsequent insulin resistance (Barker DJP

2004;Eriksson JG et al. 2002). Stunting rather than underweight can become a problem as socio-economic conditions and thus diets improve (Uauy R & Kain K 2002). This can be exemplified in Asian populations where the differences in body composition have resulted in metabolic risk factors at lower levels of obesity and waist-hip ratio, than say for European populations. The new ethnic specific values for waist circumference (International Diabetes Federation 2005b) are a reflection of this (see table 3.1, Ethnic specific values for waist circumference).

An increasing prevalence of heart disease and impaired glucose tolerance is predicted in countries undergoing a nutrition transition from a traditional and often sparse diet, to one where there is improved nutrition, and potentially excess calories and subsequent weight gain. Graphic examples of this can be seen in many developing countries including Bangladesh, India and China. Asian mothers are known to be small which is thought to be a result of chronic malnutrition, especially in rural areas. As discussed in chapter two, in Bangladesh, half of the babies born have a low birth weight (a third of those in India) (Yajnik CS 2004). India and other Asian countries are currently experiencing rapidly escalating epidemics of both Type 2 diabetes and cardiovascular disease. In urban Indian adults for example the prevalence of Type 2 diabetes has increased from less than 3% in the 1970's to greater than 12% in 2000 (Ramachandran A et al. 2001). There are similar numbers for adults with impaired glucose tolerance. In another study in India, evidence of insulin resistance has been found in children as young as 4 years who had a low birth weight, supporting the view that insulin resistance originates in utero (Yajnik CS et al. 1995). It is therefore feasible that the diabetes epidemic in Asian countries is a result of maternal and fetal malnutrition. Feeding programmes which aim to improve nutrition during pregnancy, and therefore foetal nutrition, could be one avenue of reversing this trend. It is also necessary for nutrition programmes, aimed at preventing malnutrition, begin to combine there objectives in order that they promote child growth but prevent obesity (Uauy R & Kain K 2002). Weight is commonly measured against standard growth charts (CDC 2005) in order to measure health in babies and young children around the world; particularly in impoverished communities where there is little access to health care (Cannon G 2005). Using these charts, failure to thrive is noted if the weight gain is slow as measured by being in a low percentile. The UN has noted however that as the growth charts are based on the measurements of children in the USA, many of whom have been formula fed which can cause accelerated growth rates (de Onis M et al. 2004), then these charts may not be appropriate. In fact, energy requirements for babies are less than previously thought (Cannon G 2005). Consequently new international growth curves have been developed following the WHO Multicentre Growth Reference Study (MGRS) that will represent "the best description of physiological growth for all children from birth to five years of age and to establish the breastfed infant as the normative model for growth and development" (World Health Organisation: Department of Nutrition 2006). In the UK, new UK-WHO growth charts for children aged 0-4 years were launched on 11th May 2009 and have been introduced for the first time in England. The charts, which have been developed for the Department of Health by the Royal College of Paediatrics and Child Health replace UK 1990 charts for this age group (Department of Health 2009). For countries that continue to use the old charts as a reference however, the babies are

likely to be overweight and have increased potential to become obese and develop Type 2 diabetes in adulthood (Cannon G 2005). Estimates of underweight, wasting and malnutrition in the developing world may be exaggerated (Cannon G 2005); actual energy requirements in supplementary feeding programmes should therefore define the energy provision; older children and adults should have the same considerations.

The associations that are being found with low birth weight babies and coronary risk factors are also being found in babies that are above average birth weight for example babies from mothers who develop gestational diabetes and deliver macrosomic babies (Barker DJP 1995). This so-called U-shaped association between birth weight and diabetes can be seen for example amongst the Pima Indians where large babies being born to mothers with gestational diabetes is unusually common (McCance DR et al. 1994).

So far the discussion has concerned the biological determinants of health with a focus on our genetic predisposition and the interaction with our changing environment, diet and lifestyles. Figure 3.5 provides a summary of the "Evolutionary and modernising influences on Type 2 diabetes" (Lieberman LS 2003).

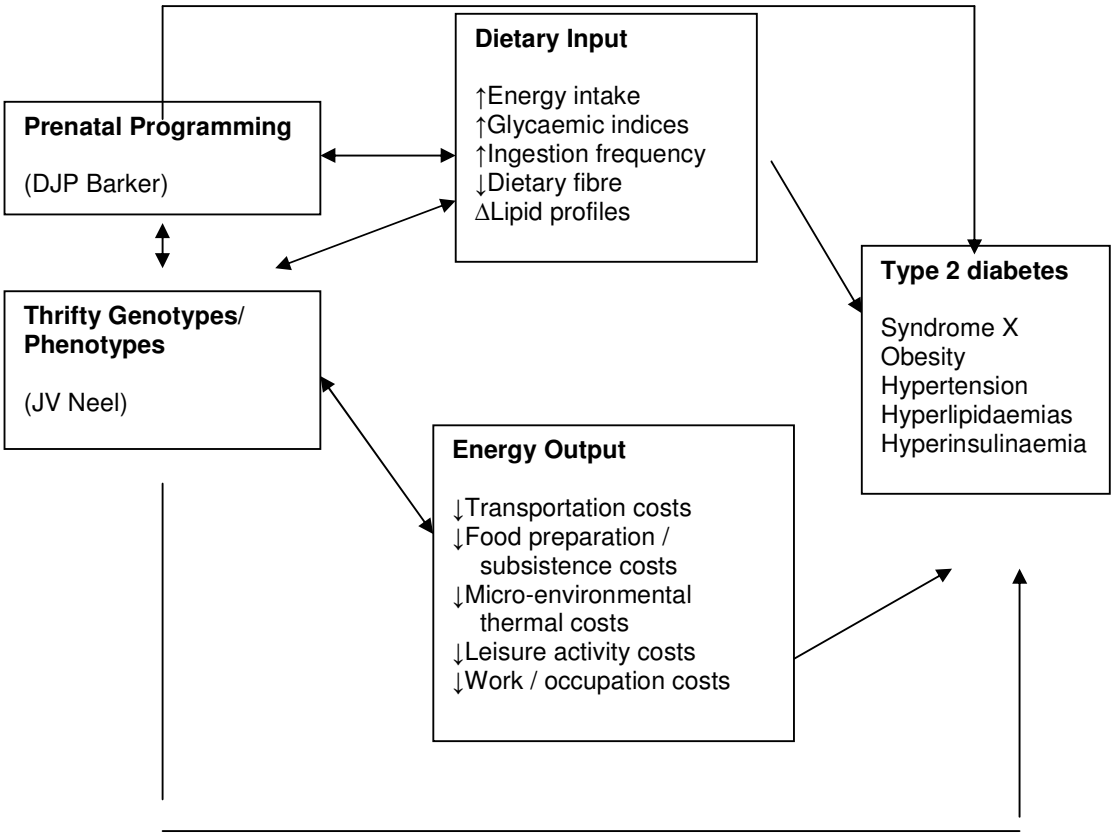


Figure 3.5 Evolutionary and modernising influences on Type 2 diabetes.

3.3.6 Epigenetics

A final addition to the discussion relating to foetal programming (imprinting), as well as our understanding of the mechanisms involved, is that of *epigenetics,* which has been described as

"an advance on classic Darwinism" (James P 2005), requiring a broadening of the traditional concept of heredity and the recognition that "natural selection acts on several different types of heritable variation" (Jablonka E & Lamb MJ 2002). Epigenetics is defined as *"the heritable but potentially reversible changes in genetic material, including the DNA and chromatin, which lead to alterations in gene expression"* (Corwin EJ 2004;Jablonka E & Lamb MJ 2002). The phenotype, the observable expression of the genes present in an individual, is a combination of genotype plus the environment, with some phenotypes being more determined by genotype such as eye colour, and others more by environment, for example obesity (Whitelaw E 2006).

This developing science may mean that the growing evidence that maternal malnutrition has effects on the offspring (as described by Baker) may be just the beginning of the story. There is limited but growing evidence that the effects of environmentally induced changes go beyond the first generation and may be transgenerationally inherited for up to three generations (Campbell JH & Perkins P 1988;Jablonka E & Lamb MJ 2002). Therefore, information in addition to the DNA sequence can be inherited and effect the phenotype (Whitelaw E 2006). In countries such as Bangladesh, India and China, as well as migrants from these countries to developed countries, who have suffered malnutrition in one generation followed by overnutrition in the next generation, are likely to have an epigenetic modification that has been programmed for one environment but finds itself exposed to another. The results are being seen in the relatively recent epidemics of obesity and Type 2 diabetes. Despite the disastrous implications of such changes, as has been noted previously, they are potentially reversible, or even preventable as a result of positive dietary modification of both the maternal diet and throughout the lifecourse of the offspring; further research is required in this area (Whitelaw E 2006). Therefore, despite individuals and populations being more vulnerable to certain chronic diseases they are not doomed by prenatal and early nutritional exposures.

Now, moving on from the discussion of the biological determinants of health, the following sub-sections provide an overview of how these genetic factors clash with social influences such as the socio-economic circumstances across different stages of development, and impact of changing food policy.

3.3.7 Life-course approach

The effect of socio-economic circumstances on different stages of development are now being implicated in the pathogenesis of certain chronic diseases such as obesity, Type 2 diabetes and coronary heart disease: "*The effects of the intrauterine environment on later disease are conditioned not only by the events at conception, but by the events after birth*" (Barker DJP 2004). In the Indian subcontinent for example, the population has faced malnutrition for many generations while the diabetes epidemic has occurred in recent years. Susceptibility to diabetes is more than five times higher in urban versus rural areas suggesting that post-natal events also contribute to the rise. Urban lifestyles, with the reduction in physical activity and poor diet, promote obesity and subsequent insulin resistance and Type 2 diabetes (Yajnik CS 2004). The phenomenal rise in chronic diseases as described should be ascribed to both the co-called

epidemiologic, nutritional and economic transitions occurring in many developing countries, as well as genetic factors (Yajnik CS 2004). These explanations should not be viewed as exclusive but rather they are likely to compliment each other.

The life-course approach to the study of disease epidemiology has been defined as: "*the study of long-term effects on chronic disease risk of physical and social exposures during gestation, childhood, adolescence, young adulthood and later adult life*" (Ben-Shlomo Y & Kuh D 2002). It takes into account evolutionary influences in the development of chronic disease, as well as the way socio-economic determinants of health are experienced at different life stages. The majority of chronic diseases, such as Type 2 diabetes and coronary heart disease, are likely to be the consequence of life-long accumulation and interaction of both fetal and childhood, and later-life adverse exposures, across generations (Lynch J & Davey Smith G 2005). Furthermore, many of the life-long risk factors (see table 3.4) such as low birth weight, poor diet, obesity, smoking and lack of education, are socially patterned. These factors are therefore important mechanisms in the development of the health inequalities seen in adult life (Lynch J & Davey Smith G 2005).

Life course stage	Type 2 diabetes
Trans-generational	Parental history, maternal health, behaviour, stress, and diet before pregnancy. Low socioeconomic position, gestational diabetes
In utero	Maternal health, behaviour, stress, and diet during pregnancy. Low and high birth weight
Infancy	Infant feeding, catch-up growth, low socioeconomic position
Childhood	Low socioeconomic position, shorter leg length, adiposity rebound, obesity, insulin resistance, diet
Adolescence	Low socioeconomic position, diet, physical activity, obesity, insulin resistance
Adulthood	Low socioeconomic position, short height, diet, physical activity, obesity, alcohol, insulin resistance, offspring birth weight, work factors, psychosocial factors

Table 3.4 **Putative life course risk factors for Type 2 diabetes**
Modified from: (Lynch J & Davey Smith G 2005)

The geographical patterns of mortality between developed and developing countries may be better understood by taking a life-course perspective. The health inequalities that we see today both between and within countries may be driven by a combination of adverse exposures, beginning with poor socioeconomic circumstances in early life and childhood, and the increased likelihood that these individuals may also experience adverse social circumstances later in life (Ben-Shlomo Y & Kuh D 2002;Leon DA 2000). Using the migrant population of Bangladeshis in the UK as an example, the increased prevalence of diabetes may be a result of poor maternal nutrition in rural Bangladesh, where food insecurity, malnutrition and stunting is prevalent,

leading to pre-natal programming and the setting of 'thrifty' metabolic functions in their offspring. Upon migration to the UK there is exposure of a population, with already increased susceptibility, to a new and obesogenic environment. The nutrition transition leads to adverse lifestyle changes (a diet high in fat, salt and sugar, and reduced physical activity), which together with the ongoing poor socio-economic circumstance in this vulnerable group results increasing the risk of developing chronic diseases.

3.3.8 Social Nutrition

The current epidemic of chronic diseases in the UK may also to some extent be linked to the Government nutrition policies of the 1930's relating to welfare foods and supplements. In the past food systems have been based on seasonal availability linked to traditional agriculture. British wartime feeding however led to a transformation of agriculture in order to produce as much as possible, as cheaply as possible (James P 2005) as can be illustrated in the slogan *"food is a weapon – don't waste it"* (picture 3.1). The UK went from producing 30% to 70% of its food (James P 2005). The nation's diet improved in quality as a result of food rationing (Wilkinson R G 1996). At that time, epidemiological evidence showed that chronic non-communicable diseases were very uncommon or non-existent in developing countries. But now there has been an emergence of 'over-nutrition' which can be linked to degenerative diseases of the modern Western world (Lennon D & Fieldhouse P 1982). After the war, food policy which promoted self sufficiency ceased and a solely agricultural policy was developed, with the provision of cheap food from a global market (Caraher M & Coveney J 2003;Lang T 1999); the underlying philosophy of this productionist paradigm being neo-liberal economics (Caraher M & Coveney J 2003;Lang T 1998). This production-driven model of agriculture was not unique to the UK being seen throughout the world, with governments creating both national and international policies to increase food production via the use of modern chemicals, improved transport systems and processing and farming technologies (Lang T & Heasman M 2004). The main goal of these policies was to increase output and efficiencies for increasingly urbanised populations, increasing self-sufficiency in production. For many developing countries however the same policies are in fact being used to weaken self-sufficiency, with American food aid for example being used to dispose of American agricultural surpluses while at the same time satisfying the demands of many lobby groups under the guise of international humanitarianism (Lang T & Heasman M 2004;Zerbe N 2004). It is these agricultural policies however, with its resultant abundance of cheap food, which may have induced the emergence of the high rates of coronary heart disease (James P 2005). Despite the reduction in malnutrition and the emergence of over-nutrition in modern society, current food policy is still based on concepts from 1942. The implications of past and present nutrition policy will be discussed in greater detail in Chapter four.

Against the background of current food policy the intergenerational implications of the thrifty phenotype hypothesis are of significant concern. It has been noted previously that even if maternal nutrition is improved in the at risk groups, thereby reducing the risk of foetal growth retardation, that more than one generation of improved nutrition may be required in order to

improve foetal growth (Robinson R 2001). In the context of this study, it would seem that if this is the case, there will be increased risks for the development of chronic disease in second generation and possibly even third generation British Bangladeshi's, even if there have been improvements in maternal and therefore foetal nutrition. This coupled with the fact that majority of the British Bangladeshi community, together with many other ethnic minority communities in the UK, are more likely to live in deprived environments, which have also been shown to increase the risk on becoming obese and developing NR-NCDs, then this is a particularly vulnerable group where prevention strategies are surely ethically essential.



Picture 3.1 World War II Poster: Food Is a Weapon, Don't Waste It (1941-1945)

3.4 Social Epidemiology

Following on from the previous discussion on the biological determinants of health, and their interaction with government food policies and life-long socio-economic circumstances, this following section will look specifically at the social determinants of health and wellbeing, and the effects of the various factors relating to the inequalities seen in the health of particular populations. The discussion will move on to outline how the materialist explanations and the psychosocial environment in particular may be independent mechanistic components of the inequalities seen in health, such as the increased prevalence of obesity and Type 2 diabetes, and that genetic causes alone cannot usually account for the these variations.

Explanations for the inequalities seen in health are multifactorial – a consequence of being a product of people's everyday lives (Baum F 2002). There is extensive information from reports, statistics and research which contribute to the picture of health and illness being a result of social patterning. The Black[11] (Whitehead M 1992) and Acheson Reports (Acheson D et al.

[11] Original publication of the Black Report was over the Bank Holiday Weekend of 1980 by the Thatcher Government.

1998) present some of the most comprehensive considerations on health inequalities in the UK, whilst The Marmot Review (Marmot M et al. 2010) (published following the completion of this research) provides a strategic review of health inequalities in England post 2010. In this following section, the contentious issue around why inequalities exist shall be explored through a range of interacting factors including:

- The social environment - area/geographical related factors
- Materialist explanations - the material circumstances in which people live
- Psychosocial and behavioural explanations

3.4.1 Social patterns of health inequalities

There are persistent inequalities in health with a markedly higher proportion of people from the lower socio-economic groups, as compared to middle and upper, reporting chronic ill-health, in both males and females. A key publication, The Black Report (Whitehead M 1992), showed that while continued improvement in health, across all the classes, had occurred during the first 35 years of the National Health Service (which began on 5 July 1948), there was still a co-relation between social class[12] and infant mortality rates, life expectancy and inequalities in the use of medical services. The report emphasised material explanations for health inequalities, for example, poor housing conditions, lack of resources in health and educational provision as well as higher risk occupations for the poor health of the lower social classes. As many people from ethnic minority communities at the time, as now, were in the poorer classes, it suggests that the same issues would be relevant to the ethnic inequalities in health (Nazroo JY 2001). A later study by Marmot et al (Marmot M, Adelstein A, & Bulusu L 1984) of immigrant mortality however came to different conclusions to the Black Report, finding instead that class and the subsequent material explanations were not related to the poor health and mortality rates seen in most migrant groups. In 1997 though, the Independent Inquiry into Inequalities in Health, the 'Acheson Inquiry', chaired by Sir Donald Acheson (Acheson D, Barker DJP, Chambers J, Graham H, Marmot M, & Whitehead M 1998) was commissioned by the Minister for Public Health and had two main goals. The first was "to review the latest available information on health inequalities and "*summarise the evidence of inequalities of health and the expectation of life in England and identify trends*". This review would be based on data from the Office for National Statistics (ONS), the Department of Health (DH) and elsewhere. The second was to identify, in the light of the review, "*priority areas for future policy development . . . likely to offer opportunities for Government to develop beneficial, cost effective and affordable interventions to reduce health inequalities*". These policy proposals were to be based on "*scientific and expert evidence*" and "*within the broad framework of the Government's financial strategy*" " (Acheson D, Barker DJP, Chambers J, Graham H, Marmot M, & Whitehead M 1998). Amongst a great deal of other findings it is significant to note that while recognising the early work of Marmot et al (Marmot M, Adelstein A, & Bulusu L 1984), as mentioned previously, they found that more recent data from Harding and Maxwell (Harding S & Maxwell R 1997) had "*shown a relationship between socioeconomic status and health for some migrant groups"* (Acheson D, Barker DJP,

[12] Social class classification devised by T H C Stevenson, medical statistician in the General Register Office (Rose D 1995)

Chambers J, Graham H, Marmot M, & Whitehead M 1998). The final recommendations from the inquiry have been recognised as being very influential in helping to illustrate the need for the wider determinants of health to be addressed in order to reduce health inequalities (Exworthy M et al. 2003). More recently, James Nazroo, following analysis based on the Fourth National Survey of Ethnic Minorities carried out in 1993 to 1994 and covering England and Wales (Modood T et al. 1997), also found that there was strong evidence for *"a structural-material explanation for ethnic inequalities in health"* (Nazroo JY 2001). Socioeconomic status is now widely seen as central to eliminating the disparities in health, including the health of those in ethnic minority communities (Department of Health 2003a;Department of Health 2004a;National Centre for Chronic Disease Prevention and Health Promotion 2005;WHO 2003b). The situation however is complex, with the social environment, together with material circumstances and behavioural, psychosocial and biological factors all interacting. These factors are in turn influenced by social class, which is shaped by ethnicity, gender, education, occupation and income, together with the underlying socio-political, cultural and social context (Marmot M, Allen J, Goldblatt P, Boyce T, McNeish D, Grady M, & Geddes I 2010). Policy makers and health care workers will need to take into account these wider determinants as shall be discussed in greater detail throughout this section.

There is a wealth of evidence, which can be seen between and within countries, and communities as to the effect of inequalities in health (Marmot M 2005;Wilkinson R G 1996;Wilkinson R G & Pickett K 2009). Examples include the wide spread of life expectancy between countries, such as 34 years in Sierra Leone to 81.9 years in Japan (WHO 2004), and within countries, such as the 20 year gap between the least and most advantaged populations in the USA (Murray CJL et al. 1998). In Australia, a particularly revealing example of health inequalities is seen between the Australian general population, and the Aboriginal and Torres Straight Island communities (Indigenous peoples) who make up 2.2% of the population[13] (Australian Human Rights and Equal Opportunity Commission: Aboriginal and Torres Straight Islander Social Justice 2005) and are a socially excluded minority in their own country (Marmot M 2005). The Australia Bureau of Statistics has estimated that the life expectation for Indigenous females in 2001 was 62.8 years and for males 56.3 years, with the life expectation inequality gap between Indigenous and non-Indigenous females being 19.6 years and for men 20.7 years. To illustrate the point further, Australian life expectancy is actually amongst the highest in the world (Marmot M 2005). The reduced life expectancy of Australia's Indigenous peoples is due to increased mortality from non-communicable disease and injury, not high infant mortality rates, which is often associated with populations experiencing absolute poverty. (Australian Human Rights and Equal Opportunity Commission: Aboriginal and Torres Straight Islander Social Justice 2005;Marmot M 2005). The burden of the non-communicable diseases seen in this Indigenous population, as within many other regions of the world, is being seen as attributable to risk factors such as obesity, smoking, alcohol and poor diet (Marmot M 2005;WHO 2002;World Health Organisation 2003b). Another example of the effect of inequalities on adult mortality rates within countries can be seen in a study by Hurt and colleagues (Hurt LS, Ronsmans C, & Saha S 2004). The study looked at a poor agrarian

[13] 2001 census

population in Bangladesh, finding that adult mortality was inversely related to education and was an important predictor of mortality in its own right.

3.4.1.1 Social patterns of health inequalities in ethnic minority populations

The have been a number of studies showing that the majority of British ethnic minorities experience higher rates of morbidity and mortality then the majority white population (Harding S & Maxwell R 1997;JRF: Joseph Rowntree Foundation 1998;Modood T, Modood R, Lakey J, Nazroo J, Smith P, Virdee S, & Beishon S 1997;Nazroo JY 2001). British South Asians for example have the highest rates of heart disease and Type 2 diabetes, the Bangladeshi and Pakistani minorities in particular experiencing the greatest overall morbidity (Chandola T 2001). There has been comparatively little evidence for the explanation of why the health of ethnic minority populations differs from that of the majority White population, with major surveys, until The Fourth National Survey of Ethnic Minorities (Modood T, Modood R, Lakey J, Nazroo J, Smith P, Virdee S, & Beishon S 1997), being predominantly representative of the English adult population and not having adequate sample sizes for the ethnic minority populations (Chandola T 2001). Moreover, the Register General's Social Class (RGSC) system of classification has been criticised for 'lacking explanatory power', with the basis for classifying occupations into classes never being specific (Chandola T 2001;Marshall G et al. 1993). It has also been criticised for not including self-employed as a class category (Chandola T 2001;Smaje 1995;Williams R, Wright W, & Hunt K 1998); self-employment being a common characteristic of employment in the Asian population.

In order to rectify these issues a new system of socio-economic classification has been developed by the Office for National Statistics – the National Statistics Socio-economic Classification (NS-SEC) to replace the Registrar General's Social Class and Socio-economic Groups. The new NS-SEC is also an occupationally based system of classification but has rules to provide coverage of the whole adult population, now having provision for the previously unacknowledged self-employed as well as those who have never worked or are long-term unemployed, both of which are particularly relevant, for example, to the Bangladeshi population. The NS-SEC has eight classes, the first of which can be subdivided; see table 3.5[14].

[14] From 2001 the NS-SEC is being used for all official statistics and surveys. This change was agreed by the National Statistician following a major review of government social classifications commissioned in 1994 by the Office of Population Censuses and Surveys (now the Office for National Statistics) and carried out by the Economic and Social Research Council (National Statistics 2005).

1	Higher managerial and professional occupations 1.1 Large employers and higher managerial occupations 1.2 Higher professional occupations
2	Lower managerial and professional occupations
3	Intermediate occupations
4	Small employers and own account workers
5	Lower supervisory and technical occupations
6	Semi-routine occupations
7	Routine occupations
8	Never worked and long-term unemployed

Table 3.5 The National Statistics Socio-economic Classification Analytic Classes
(National Statistics 2005)

Chandola (2001) expanded on the work done by Nazroo (2001), on the Fourth National Survey of Ethnic Minorities, by using the new NS-SEC to explain the differences between the majority White population and British South Asians. The study found that while there was some evidence for class differences in the health of Indians, there was a lack of such evidence for class in the health of Pakistanis and Bangladeshis. One explanation for the relatively little social class differences seen in the self-rated health of Pakistanis and Bangladeshi is that unlike Indians and African-Asians, they have had little social mobility as a group and remain relatively disadvantaged when compared to others (Chandola T 2001;Jones T 1993;Platt L 2005). Chandola notes that the lack of social class found by Marmot (Marmot M, Shipley MJ, & Rose D 1984;Marmot MG, Adelstein AM, & Bulusu L 1984) may have been due to investigating a different cohort, with respect to age and experiences. In respect to self-rated health, social class as measured by the NS-SEC reduced the differences, between Indians and Whites, to non-significance while the Pakistanis and Bangladeshis remained significantly poorer, and once material factors were adjusted for there was a non-significant difference between Whites, Indians, Pakistani or Bangladeshis. This would suggest that the underclass hypothesis alone is not an explanation for the ethnic differences in health.

While there may be little difference in social class within the Bangladeshi and Pakistani populations, with the majority having low socio-economic status – 60% being considered to be poor (Berthoud R 1998), and even though Bangladeshis, Pakistanis and Indians are all over-represented in the small employer/self employed and working classes and the economically inactive, factors which have been shown to be related to the poorest health both in this and other studies such as the Whitehall study, other material factors may contribute to explaining ethnic differences in health including income-related factors such as standard of living and area related factors such as ward deprivation (Chandola T 2001). Ward level deprivation may be seen as a confounding factor for any association seen between ethnicity and health as the most deprived wards are also those that have the highest population of minority ethnic groups, for example Tower Hamlets in East London, however as the association between ward level deprivation and health is also seen in the White population, this is unlikely (Chandola T 2001).

Furthermore, the study suggests that as there are significant patterns of health inequalities seen both 'between' Whites and British south Asians, as well as 'within' British South Asian ethnic groups, then the general factors relating to racism, culture and migration may not be explanatory factors for the health differences as they do not take into account the heterogeneity within ethnic groups (Chandola T 2001). This supports the work done previously by Nazroo and Smaje (Nazroo J 1998;Nazroo J 1997;Smaje 1995) who argue that the evidence for cultural and lifestyle factors – thus treating being South Asian is itself as a risk factor for poor health - is inadequate, often leading to victim-blaming by implying that it is something inherent in being British South Asian rather than the context within which they live their lives (Chandola T 2001). In fact, many of the health damaging behaviours such as smoking, alcohol consumption and unhealthy diets are generally lower when compared to the White population (Nazroo J 1997).

3.4.1.2 Social patterns of health inequalities and Type 2 diabetes

Looking specifically now at Type 2 diabetes and socio-economic status, the prevalence of Type 2 diabetes varies by level of deprivation, with the most deprived populations in developed countries, being more likely to have diabetes (Connolly V et al. 2000;Evans JMM et al. 2000;Ismail AA, Beeching NJ, Gill GV, & Bellis MA 1999). Additionally mortality in diabetes, as with other markers of poor health, is adversely affected by poorer social class (Chaturvedi N et al. 1998;Robinson N, Lloyd CE, & Stevens LK 1998), with the main cause of death being ischemic heart disease (Chaturvedi N, Jarrett J, Shipley MJ, & Fuller JH 1998;Roper NA et al. 2001). In contrast, a study undertaken in urban India (Ramachandran A et al. 2002) found an inverse relationship in the prevalence of Type 2 diabetes and low socioeconomic status, together with lower rates of obesity. This reversed with respect to the complications of diabetes, where the urban poor had high rates of complications of diabetes and high rates of cardiovascular risk factors. This apparent anomaly however rather reflects the early stages of the Nutrition Transition discussed in previous sections which, in both developed and developing countries, has seen rapid changes in diet and lifestyle patterns, initially in the wealthier sections of the community but now, across all segments, as there is rapid urbanisation and changes in the food system, increasing access to cheap sources of high fat, sugar and their products.

3.4.2 Government Interventions – public health policy

In 1997, the newly elected Labour Government began to gather evidence on the public health issue of the growing inequalities, culminating with the Department of Health and the Treasury Department producing a joint reports in 2002/2003 on tackling inequalities in health (Department of Health 2002;Department of Health 2003b). The reports recognised that inequalities in health were avoidable and unjust, as well as the fact that inequalities and their impacts on health were complex, difficult to explain and rarely had simple actions that may rectify the problem resulting in much debate but little action (Nutbeam D 2004). The reports also recognised that while there was a great deal of evidence describing the problem, most of the evidence regarding effective interventions come from studies designed to modify individual behaviour; little research has been done on interventions which address the wider social determinants of health (Nutbeam D 2004). Following on from this, in 2007 the first ever national

Public Service Agreement (PSA) for health inequalities to narrow the health inequalities gap was introduced with the target of: *By 2010 to reduce inequalities in health outcomes by 10 per cent as measured by infant mortality and life expectancy at birth.* The document *Health inequalities: progress and next steps* (Department of Health 2008b) laid out the Governments approach to reaching this PSA target as well as the direction beyond 2010.

In March 2005 the WHO also launched a Commission on Social Determinants of Health (CSDH), chaired by Michael Marmot, asking the question:
"Why are some people healthy and others not? It is not just a matter of individual genes or lifestyle choices or bad luck. Nor is it only a question of access to medical care. The living conditions - social, political or economic - play a major role." (World Health Organisation 2006c)

The Commission aimed to review current knowledge relating to the social determinants of health, as well as raising societal debate and promoting the uptake of policies, which will reduce the inequalities in health, seen both between and within countries. That is to say, the causes of the causes were to be investigated and acted upon (Marmot M 2005). The recent Marmot Review in England (Marmot M, Allen J, Goldblatt P, Boyce T, McNeish D, Grady M, & Geddes I 2010) is the Governments response to the recommendation of the CSDH (CSDH 2008) and is said to demonstrate the government's commitment to reducing health inequalities in England by contributing to the development of a cross government health inequalities strategy post-2010. The review includes policies and interventions that address the social determinants of health inequalities, going beyond interventions designed to change individual behaviour, with an early years focus and taking a lifecourse approach.

Sweden is another country which is recognising the impact of social determinants on health. In 2003 the New Swedish Public Health Policy, developed by the National Public Health Committee, formed in 1997, was approved. The goals of the policy have been expressed in terms of determinants of health rather than health outcomes and make Public Health central to all Swedish government policy (Agren G 2004;Agren G & Hedin A 2006;The National Institute of Public Health 2002). Public health authorities at the level of society are to be guided by the goals, for example, economic policy, social welfare, the labour market, transport, agriculture and the environment (Marmot M 2005;The National Institute of Public Health 2002).

Work to improve inequalities is also being undertaken in developing countries. In chapter 1 the work of the Bangladeshi Government was discussed. As noted, the government launched the first-ever Food for Education Programme (FFE) in 1993 providing a ration of free monthly food grains to poor families on the stipulation that their children attend school (Ahmed AU & del Ninno C 2002).

3.4.3 Materialist versus behavioural/lifestyle explanations

A major debate amongst academics, in the research being conducted into inequalities and health, is that of the effect of materialist explanations versus behavioural/lifestyle explanations. The materialist explanations focus on the material conditions under which people live and

asserts that people from lower socio-economic groups are victims of an environment where they have inadequate income to enable them to afford healthy food choices, have worse housing and live in poorer areas, have the worst and often most hazardous jobs and are at increased risk of unemployment. The behavioural / lifestyle explanation focuses on how the social groups make their choices and how it is the people from the lower socio-economic groups that have the tendency to adopt the lifestyles that are damaging to their health (Baum F 2002). At an epidemiological evidence level there is the neo-materialist versus psychosocial environment (social capital) interpretations which represent what the debates between materialist and behavioural/lifestyle interpretations are at a community level (Pearce N & Davey Smith G 2003). These two different approaches reflect the philosophical positions of collectivism versus individualism. The materialist approach considers the impact of the collective on the individual and how the structure of the whole of society impacts on health and illness, while the behavioural approach sees the burden of illness lying with the individual, with the agency of the individual being a crucial element (Baum F 2002). The psychosocial environment interpretation asserts that psychosocial factors are essential in understanding the health effects of income inequality, with the demonstration that absolute income is unrelated to health among developed countries being an important claim in the theory (Lynch JW et al. 2000b). It is this latter view point, with emphasis on the individual, which maintains the current situation in much of our public health policy, exemplified by the government White Paper – '*Choosing* Health' (emphasis added). This approach sits with the underlying individualisation of society which has been a feature of government policy since the Thatcher government of the 1980's (Wilkinson R G 1996) and makes the cultural explanations for ill-health more readily adopted. The debate between these positions however can be seen as a matter of emphasis, with any stark divisions being artificial, one intimately affecting the other. In the following discussion, these two dominant theories will be considered.

3.4.3.1 The Psychosocial Environment (Social Capital)

That absolute and relative poverty are linked to poor health is incontrovertible when viewing the abundance of literature available on the subject. The stark contrasts seen between developed and developing counties, with respect to the impact of absolute poverty on health, are powerful examples. In both however, despite reductions in absolute poverty, the inequalities in health persist, and there is evidence that income inequality plays a significant part in these health differences between different members of society (Wilkinson R G 1996). Before moving on to discuss the impact of income inequality, it is useful to start with some definitions of absolute versus relative poverty. Absolute poverty is related to lower absolute material standards such as dirty water, poor housing, inadequate heating and poor nutrition; relative poverty on the other hand, is more a reflection of what matters most being, not how much you have, but what you have in comparison to your neighbour, as aptly described by Karl Marx:

"A house may be large or small; as long as the neighboring houses are likewise small, it satisfies all social requirement for a residence. But let there arise next to the little house a palace, and the little house shrinks to a hut. The little house now makes it clear that its inmate has no social position at all to maintain, or but a very insignificant one; and however high it may

shoot up in the course of civilization, if the neighboring palace rises in equal of even in greater measure, the occupant of the relatively little house will always find himself more uncomfortable, more dissatisfied, more cramped within his four walls." (Marx K 1999)

There is now strong evidence of the relationship between income distribution and national mortality rates, with more egalitarian countries experiencing better health than those where there are large disparities between the higher and lower segments of society (Marmot MG & Wilkinson R G 2001;Wilkinson R G 1996;Wilkinson R G 1997b). The relationship was initially found in data from rich and poor countries alike, a relationship that remains highly significant even when confounding factors such as average incomes, absolute poverty, racial differences, smoking and provision of medical services have been taken into account (Wilkinson R G 1996). In Britain for example, while absolute mortality has been falling, the mortality from inequalities has increased (Acheson D, Barker DJP, Chambers J, Graham H, Marmot M, & Whitehead M 1998;Marmot MG & Wilkinson R G 2001). In Sweden however, where there is a more equitable distribution of income than in the United Kingdom, the mortality rates by social class show a lower gradient, and in the lower social classes in Sweden the death rates are actually lower than in the upper social classes in England and Wales (Stewart-Brown S 2003). These differences lead to the suggestion that a country's overall health is affected by income inequalities at all social classes, not just the poorer classes, and is related to the degree of inequity in income distribution; the psychosocial forces that encourage the unequal distribution of wealth, at both ends of the spectrum, therefore needs to be determined (Stewart-Brown S 2003). One solution to reducing income differentials would be redistributive fiscal policy, this however is an approach resisted by many Western governments leading to a focus instead on ways of protecting the poor from the impact of inequalities rather than their causes (Stewart-Brown S 2000;Waterston T, Alperstein G, & Stewart Brown S 2004b). As the causes of social inequalities however lie within the attributes of high income groups, as with those of low income groups, then the development of preventative interventions that are effective at both ends of the income distribution need to be considered (Stewart-Brown S 2000).

In the lower social classes, where the research is currently focused, the differences in health relate to deeper relative poverty and it is not necessarily the richest countries therefore that experience the best health. It has been found that more egalitarian societies have a stronger community life with people more likely to participate in social and voluntary activities outside of the home. There is less anti-social behaviour and the community as a whole appears to be more caring. These societies have what has been termed 'social capital' , where it is the bonds between people, individuals and groups, that allow for a variety of goals to be achieved (Kunitz SJ 2004;Wilkinson R G 1996). Robert Putnam's "Making Democracy Work: Civic Traditions in Modern Italy" (Putnam RD 1993) which compares regions in Northern and Southern Italy, after the fall of the communist states of Eastern Europe, provides a edifying example of the effect of social capital . The two areas contrast in that Northern Italy has a long history of civic traditions, while Southern Italy on the other hand instead has a long history of poor civic tradition. With the democratization of the government Northern Italy created regional governments that have functioned well after two decades while the converse is seen in the Southern regions. Putnam's

principal finding from his research was that the differences seen in the two regions was closely related to the level of social capital in each region in that in northern Italy, the citizens actively participate in civic but by contrast, in southern Italy, patterns of civic engagement were much weaker. Individuals which are more socially active and trusting are more likely to report good or very good health when they live in countries where there are overall high levels of social capital, but less so in countries with low levels of social capital (Poortinga W 1982). Japan provides an excellent example of how narrowing the income gap and lead to improvements in health. Between 1970 and 1986 Japan had achieved the highest life expectancy in the world while simultaneously achieving the narrowest gap in income of any country reporting to the World Bank. Furthermore the changes were not found to be attributable to diet, other behavioural factors, health services or preventative health policies (Marmot MG & Davey Smith G 1989;Wilkinson R G 1996). To help put this into context a little more, this was equivalent to the gain in life expectancy, in years, that would be gained in Great Britain if deaths from heart disease and most cancers were to be eliminated (Marmot MG & Davey Smith G 1989;Wilkinson R G 1996).

Less egalitarian societies on the other hand, such as the United States of America, despite having greater incomes per capita and GDP than many poorer countries, experience higher mortality rates (Kaplan GA et al. 1996b;Kennedy S, Kawachi I, & Prothrow-Stith D 1996). Overall, countries that have systematically underinvested in human resources over many years are now the same countries that are experiencing the greatest increases in income inequality (Davey Smith G 1996b). *"The relative and absolute deterioration in social and biological assets that is occurring in increasingly unequal societies can be expected to produce poor health outcomes in the future"* (Davey Smith G 1996a). The United States has seen a dramatic increase in inequality in both wealth and income , with wealth inequality in particular now reaching levels beyond those seen in other industrialised countries (Kaplan GA, Pamuck ER, Lynch JW, Cohen RD, & Balfour JL 1996b). The analysis undertaken by Kaplan et al (Kaplan GA, Pamuck ER, Lynch JW, Cohen RD, & Balfour JL 1996b), examining the relation between health outcomes and income equality in the United States found that income inequality was significantly related to changes in mortality with the declines in mortality in the 1980s, which were experienced by all states, being smaller in states that had greater inequality in income at the beginning of the decade. Income inequality was also associated with a large number of other health outcomes, the strongest correlations seen with higher rates of homicide and violent crime, less expenditure on medical care and a greater percentage of low birth weight infants, together with significantly higher rates of adverse lifestyle choices such as smoking and sedentary behaviour, increased disability and greater expenditure per capita on police protection. Inequality was also associated with measures related to investments in human and social such as "higher rates of unemployment, incarceration, people receiving income assistance and food stamps, and medically uninsured. Furthermore, States with the greatest inequality spent a smaller proportion of total spending on education and had poorer educational outcomes, ranging from worse reading and proficiency in mathematics to lower rates of completion of high school education" (Kaplan GA et al. 1996a). Kaplan concludes that while the results of the study does not prove that income inequality causes poor health, further research

is justified and policy makers would be wise to consider the health effects and costs of their economic policies.

The analysis of small areas (communities), as opposed to countries or states, reveals that it is actually the areas mean income that is related to mortality rather than the income distribution within them (Ben-Shlomo Y, White IR, & Marmot M 1996;Davey Smith G, Neaton JD, & Stamler J 1996;Wilkinson R G 1996). In small areas the social heterogeneity which makes inequality an issue is lost, so it then becomes the relationship between, rather than within these homogeneous communities that matters (Wilkinson R G 1997a). In these areas it may be argued that there could be increased social cohesion or social capital due to the small relative poverty within the community. But even if this is the case, the absolute material deprivation remains and as noted by Lynch (Lynch JW, Davey Smith G, Kaplan GA, & House JS 2000b), it is these poorer individuals who suffer disproportionately from challenging health events and lack of resources throughout their lives, plus the relative deprivation remains once comparisons are made between communities, as noted, so once again the income inequality becomes relevant for these individuals who are placed at lower ranks of the socioeconomic hierarchy (Muller A 2002). Striking examples of this can be seen in some inner-city communities within countries for instance Harlem in the U.S where black men were found to be less likely to reach the age of 65 then men living in Bangladesh (Lynch JW et al. 1998;McCord C & Freeman HP 1990;Wilkinson R G 1997a), much as result of the degeneration and despair felt in these areas, with people not being able to participate as valued members of society (Wilkinson R G 1996). So, the appalling inequalities in cities such as Harlem are a result not from the inequalities within this community, but its deprivation relative to other areas in the United States outside of Harlem (McCord C & Freeman HP 1990;Wilkinson R G 1997a). It could still be argued however that it is in fact the absolute material deprivation that still has the largest impact, and in areas such as Harlem there are simply more people below the poverty line, as shall be discussed presently in the section titled “Materialist Explanations”. Extrapolating on the argument for relative deprivation however, one explanation for the poorer health of people from the Bangladeshi community in the UK could to a large extent be due to the effects of relative poverty and deprivation, which is the educational disadvantage, racism and gender discrimination, rather than the direct effects of the material deprivation seen, for example, in the poor housing conditions (Ben-Shlomo Y, White IR, & Marmot M 1996). The Bangladeshi community in Tower Hamlets presents an extreme example of residential segregation. The ward of Tower Hamlets is in the top 10% of most deprived wards in England, ranking at 3 out of 354 local authorities in England (where 1 was the most deprived area and 354 the least deprived), in the Indices of Deprivation 2007, and it sits alongside, the inner City of London area of Bank, which has been described the wealthiest square mile on earth, and with the City of London local authority ranking 252 out of 354 local authorities in England (Noble M et al. 2008) . The effects of the high level of segregation and variation in socioeconomic status compared to other areas of London, and indeed their neighbour, may draw out some of the psychosocial effects of the relative deprivation this community feels. By recognising the painful psychosocial effects of this, it may help to limit the victim blaming that denying these connections can cause (Marmot MG & Wilkinson R G 2001).

The epidemiological transition provides a case for the effect of both absolute and relative poverty. Health is effected by poverty both before and after the transition, but while the effect of absolute poverty is reduced, the continued improvements in material standards following economic development have a reduced influence of health (Wilkinson R G 1996;Wilkinson R G 1997b), that is, with the low levels of material deprivation seen in developed countries, especially those which are less egalitarian, there is a change from a focus from absolute to relative deprivation (Marmot M 2005;Wilkinson R G 2005). The effect of income inequality following the epidemiological transition and nutrition transitions can be further exemplified by looking specifically at which segments of society are now being most effected by the nutrition-related non-communicable diseases such as coronary heart disease, obesity and diabetes. Initially such diseases afflicted the more affluent segments of society, both in the developed and developing countries, but as there is an abundance of cheap foods now available (International Food Policy Research Institute 2006), there has been a reverse in their distribution from the more affluent members of society (as may be seen in still developing countries) to being more common in people from the lower socio-economic groups in more affluent countries. Looking at the Bangladeshi community in the UK, the first and possibly second generations may have suffered the effects of material deprivation and consequently poor maternal and infant nutrition; now however they are exposed to relative deprivation together with exposure to an obesogenic environment, the combination of which potentially exacerbates the prevalence of the NR-NCD's seen in this community. The higher socio-economic groups who are pursuing an optimal diet to prevent the NR-NCD's are now reaching a point where their diet is able to be both adequate and prudent or as Wilkinson states*: "When those who are less well off cease to be thin, obesity ceases to be associated with social status"* (Wilkinson R G 1997b). If we are going to have an impact on improving the health of the less affluent members of society and see a significant reduction in the obesogenic environment, the complex issue of inequality will need to be addressed, in that food poverty and insecurity can be seen as a symptom of inequality, together with real and substantial changes to the food chain, the physical environment and our culture.

3.4.3.2 Cultural explanations

Another consideration for ethnic variation in ill-health is of course that of cultural difference between communities, which may influence health and health-related behaviours in a number of ways. In chapter 1, the health and religious beliefs of the Bangladeshi community were introduced. Culture should not be considered to be something that is static though, it will vary between individuals and communities across time and place, being influenced by elements of other cultures, such as the British culture, and affected by gender and class, and the physical and social environment.

Ethnic minority groups are also often disadvantaged in terms of economic success, as well as being excluded from everyday mainstream society (Nazroo JY 2001), or what has been termed by some as 'whitestream' (Purewal B 2006), a fact recognised amongst these groups. Overall, the inequalities in health are *"a component and consequence of an inequitable capitalist*

society" (Nazroo JY, 2001), and as such it is society as a whole that needs to make changes if this is to change.

3.4.3.3 Materialist Explanations

Contrary to the evidence for the effect of psychosocial factors on health, the neo-materialist interpretation argues that health inequalities result from differences in the *"accumulation of exposures and experiences that have their sources in the material world"* (Lynch JW et al. 2000a) and the effect of income inequality results from both negative exposures and a lack of individual resources, together with the *"systematic underinvestment across a wide range of human, physical, health, and social infrastructure"* (Lynch JW, Davey Smith G, Kaplan GA, & House JS 2000b). Those receiving benefits are more likely to suffer from the effects of material deprivation, where constraints on budget for example are likely to result in poor nutrition (Dowler E & Calvert C 1995;Gill O & Sharma N 2004). It could be argued that there is in fact a cyclical model whereby the material causes of ill-health lead to relative poverty between communities. The unequal income distribution in populations is a result of the historical, cultural and political-economic pressure seen in societies. This unequal distribution influences both individual/private resources but moreover, the public infrastructure of education, access to adequate health services, the availability of food to meet physiological and psychological needs, the quality of housing and workplace health (Lynch JW, Davey Smith G, Kaplan GA, & House JS 2000b). It is argued that rather than starting with perceptions of inequality and their effect on health, we need to begin with the material causes of the inequalities, inequalities that lead to the intolerable living conditions of the poor, but yet may be accepted by some segments of society (Pearce N & Davey Smith G 2003;Szreter S & Woolcock M 2004).

A metaphor is provided by Lynch et al to help illustrate the differences in the neo-materialist and psychosocial environment interpretations:
"Differences in neo-material conditions between first and economy class may produce health inequalities after a long flight. First class passengers get, among other advantages such as better food and service, more space and a wider, more comfortable seat that reclines into a bed. First class passengers arrive refreshed and rested, while many in economy arrive feeling a bit rough. Under a psychosocial interpretation, these health inequalities are due to negative emotions engendered by perceptions of relative disadvantage. Under a neo-material interpretation, people in economy have worse health because they sat in a cramped space and an uncomfortable seat, and they were not able to sleep. The fact that they can see the bigger seats as they walk off the plane is not the cause of their poorer health. Under a psychosocial interpretation, these health inequalities would be reduced by abolishing first class, or perhaps by mass psychotherapy to alter perceptions of relative disadvantage. From the neo-material viewpoint, health inequalities can be reduced by upgrading conditions in economy class" (Lynch JW, Davey Smith G, Kaplan GA, & House JS 2000b).

The converse could be argued, that is, the only way to budge the income inequality gap is to do the reverse and make the rich poorer. In the United Kingdom for example, the average income

distribution in the bottom two quintiles is small, but gets increasingly large as income rises. Reducing the income of the richest to that of the second richest may therefore have a more significant impact on reducing the disparities than would increasing the income of people in the lowest quintile to that of the 2nd lowest (Stewart-Brown S 2003).

Lynch et al however go on to point out that in the real world the conditions between economy and first class would not independent, and that any improvements for those in the economy class may be resisted by those in the higher, first class. Undoubtedly the rich would also oppose any move to reduce their incomes.

A cross-sectional analysis (Lynch J et al. 2001) between income inequalities and various health related outcomes in a number of wealthy countries, found a lack of evidence for the association between the psychosocial environment and ill health. Furthermore, any associations that were found were limited to child health outcomes and cirrhosis. Lynch et al (2001) specifically looked at the gross domestic product (GDP) per person and life expectantly, but unlike the work done by Wilkinson to demonstrate that absolute income was unrelated to health, they included ALL countries with a GDP above $10000, and not just a selection of those countries (Wilkinson R G 1997b). When the more complete data set was analysed, it was found that the association between absolute income and life expectancy depended on which countries had been included. When Lynch and colleagues (Lynch J et al. 2000) analysed the 15 countries in the data set which had comparable income inequality data, they found that indicators of social capital (as described previously) were more strongly related to GDP per person than to income inequality. The question has therefore been raised about the evidence that has been used to exclude the income and material conditions and that which has been mainly in favour of the psychosocial environment interpretation of health inequalities (Lynch JW, Davey Smith G, Kaplan GA, & House JS 2000b). Wilkinson would argue however that using GDP statistics does not address internal inequalities, as GDP is an average measure that does not represent changes for the whole population. Wilkinson et al often use other measures of inequality such as the Gini coefficient which has the advantage that it is a measure of inequality by means of a ratio analysis, rather than a variable unrepresentative of most of the population, such as GDP, and can be used to compare income distributions across different population groups, such as urban and rural areas, as well as between countries. Furthermore the Gini coefficient demonstrates how income has changed for both those in the lower socio-economic groups as well as the wealthy while being able to determine that if both the Gini coefficient and the GDP are rising then poverty may not be improving for the majority of the population (Wikipedia 2006). The Gini coefficient is the most widely used summary measure of the degree of inequality in household income distribution by the Office of National Statistics (Office National Statistics 2003).

Further to the contention that there may be a lack of association between the income related inequalities and health outcomes, it is argued the social networks that are constructed in communities have the power to be both positive, as with social capital, and negative where the effect can be, for example, coercive or self-destructive. The examples of the National Rifle Association or the Mafia given by Lynch et al (Lynch J, Due P, Muntaner C, & Davey Smith G

2000), powerfully illustrate how social capital can be high but not necessarily be good for public health. Taking the Bangladeshi community in Tower Hamlets as another more local example, on a positive note the social cohesion helps with a feeling of community amongst people that share a similar beliefs and attitudes, there is protection against the effects of racism and it enables a greater political voice. On the other hand, the isolation has been linked to the poor literacy and the lack of upward mobility, together with repression of the women where they may be caught in a patriarchal community that may offer little support. People within a community should therefore have the right to choose whether they wish to stay within traditional social networks which may in fact be harmful to their health or to make changes (Pearce N & Davey Smith G 2003).

Saying all of this, neo-materialists do not deny the importance of the psychosocial causes of poor health, but they believe that any analysis of the links between inequality and health needs to begin with the structural/material causes rather than a perception of inequality (Pearce N & Davey Smith G 2003). It is the structural and political-economic processes that generate the inequalities in the first place, that occur ahead of any effects experienced by individuals. So while psychosocial mechanisms play a role in health inequalities, they are one of a number of potential pathways that occur between the macro-level forces and health (Pearce N & Davey Smith G 2003). We need to be careful that any focus on social capital does not result in the depoliticizing of the broader issues of social and economic development, that is, it does not get hijacked by a right wing, individualist agenda. Research that has a reductionist approach, focusing on individual behaviours without taking into account the wider social context can lead to victim blaming, and the production of ineffective interventions which can be harmful (Pearce N 1996). This can lead to resentment and overloading of valuable community resources (Pearce N & Davey Smith G 2003). It is for this reason that while this research shall be investigating the psychosocial factors for food choices and changes in dietary patterns in the Bangladeshi community, consideration will also be taken of how this sits in the wider material causes of the health inequalities.

3.4.4 Social Policy & Inequalities in Health

The UK provides an illustration of the importance of social policy in either limiting or aggravating the inequalities seen in health across the population. Following the First and Second World Wars, health improvements were seen in the UK, much of which is often credited to food rationing and the improvement of the nation's diet. The improvements in diet were only seen however after WWII, what did happen after both World Wars though was a return to full employment and the consequent narrowing of the income differences (Nutbeam D 2004;Wilkinson R G 1996). The narrowing of income differences during WWII was not only a natural market response to labour shortages but was a deliberate social policy (Wilkinson R G 1996):

"If the cooperation of the masses was thought to be essential [to the war effort], then inequalities had to be reduced and the pyramid of social stratification had to be flattened" (Titmuss RM 1976).

This provides a good demonstration of the point that political will is crucial for the necessary policy changes to be instigated. When comparing the Seebohm Rowntree surveys of poverty conducted in York in 1936 with that of Rowntree and Laver in 1950, Townsend found that the rates of relative poverty had seen a fifty per cent reduction (Townsend P 1979). The creation of social policy, a reduction in differences and a 'sense of common purpose' in the population is likely to have contributed to the election of the Labour Party in the 1945 general election (Wilkinson R G 1996). More recently in the United Kingdom / Great Britain, there was a gradual decrease in inequality between 1979 and 1983, but in the 1980's this significantly changed. Under the Thatcher government, the was a rapid widening of income differences from the late 1980's (Wilkinson R G 1996). Wilkinson (1996) has speculated that the widening of social circumstances that were seen under the Thatcher governments during the 1980's and 1990's, may have led to a feeling of insecurity as the public services were eroded and the population began to retreat back into individualism. For those people in the 90th percentile, they found their disposable income in real terms growing by 38% between 1981 and 1989. This was however more than five times that of those at the 10th percentile whose rate of growth was only 7 per cent (see figure 3.6). At the same time as there were changes in socioeconomic deprivation, changes were also seen in mortality rates in areas of England and Scotland in the 1981 and 1991 censuses, with the widening differences in socioeconomic deprivation between electoral wards being matched by widening disparities in mortality rates (Wilkinson R G 1996). Furthermore, the distribution of wealth is even more unequal than that of income. In 2001, half the population of the UK owned just 5 per cent of the wealth, compared with 8 per cent in 1976 (National Statistics 2004). As noted by Sarah Stewart-Brown, income inequality is driven by the wealth of the rich, not exclusively the poverty of the poor (Stewart-Brown S 2003).

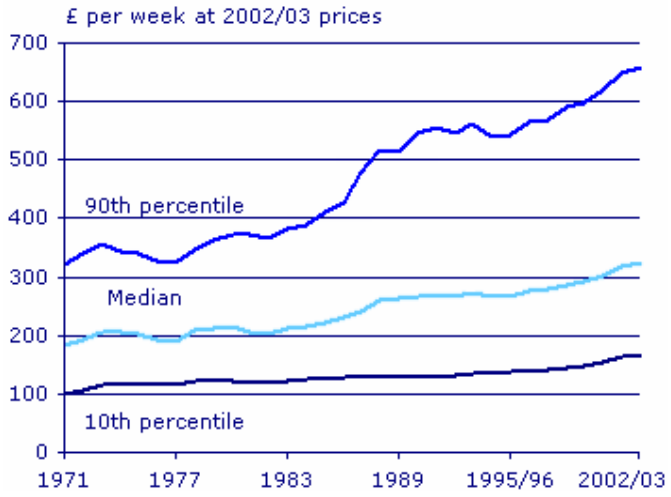


Figure 3.6 **Distribution of real household disposable income, UK/GB**
(National Statistics 2004)

The UK government is now addressing poverty and social exclusion as a key aim of health policy, representing a distinction from previous administrations. The goal to cut and eventually "eradicate" child poverty, and to ensure that, within 10-20 years, no one is seriously disadvantaged by where they live are two of the most high-profile targets (JRF: Joseph

Rowntree Foundation 2005). The reduction of overall income inequality is not however an aim of the government with the focus being on relative poverty for selected groups and on life chances; income inequality being monitored at the EU level (JRF: Joseph Rowntree Foundation 2005). As noted previously, redistributive fiscal policy continues to be resisted my many Western governments (Waterston T, Alperstein G, & Stewart Brown S 2004a).

3.4.5 Residential Segregation

Residential segregation/geographical location is a further factor effecting health, within cities and regions, whereby the different geographical location may reflect different levels of socioeconomic status and the related health status, as well as differences between rural and urban lives (Baum F 2002). The forces which resulted in these residential patterns can be broadly categorised into post-war migration, and chain migration with new combers finding accommodation through existing social networks in Britain (Smaje C 1995). An early study by Ecob and Williams, despite some limitations such as no adjustment for socio-economic status, and the possible artefact effect of religious composition, found that there were differences between levels of South Asian residential density and a number of measures of ill-health. That is, those living in the more areas of greater South Asian concentration displaying poorer health (Ecob R & Williams R 1991;Smaje C 1995), Tower Hamlets in East London is an example of this. Another international study (Lobmayer P & Wilkinson R G 2002) investigating the relation between income inequality and population death rates in the US was mediated by the degree of residential segregation between the rich and poor. They found that while the residential segregation was associated with higher rates of mortality, before and after controlling for inequalities, it did not account for most of the association between mortality and income inequality in seen in the areas studied. In another study undertaken in the UK however (Ben-Shlomo Y, White IR, & Marmot M 1996) , the researchers investigated whether the risk of mortality in a given geographical area was related to the degree of socioeconomic variation within that area, finding a positive association, although this variation was the least in both the most affluent and deprived areas. The results lend themselves to further research being undertaken in the area of 'community solidarity' and whether this has a beneficial effect on all residents. The lack of variation in the most and least deprived areas however is consistent with the findings that when the community is more homogeneous, then poor health is not a reflection of the inequalities within the community but the communities deprivation (or otherwise) compared to other communities outside (Wilkinson R G 1997a).

3.4.6 Racism

Racism is an additional aspect of the inequalities in health experienced by ethnic minority communities; it impinges on many aspects of life which may lead to some of the disadvantages experienced in this group. The Fourth National Survey of ethnic minorities (Modood T, Modood R, Lakey J, Nazroo J, Smith P, Virdee S, & Beishon S 1997) includes an element which attempts to assess the degree to which people from ethnic minority communities were effected by racism. This involved asking the views of members of both the white and ethnic minority

communities. It was revealed, that amongst the white population, despite likely underreporting and the crudeness of the questions, that there was significant racial prejudice among white people, with one in four white people for example stating that they were racially prejudiced against Asian people (Virdee S 1997). Amongst the ethnic minority communities, there was a widespread belief that they were discriminated against by employers when applying for jobs, and there was widespread experience of this (Modood T, Modood R, Lakey J, Nazroo J, Smith P, Virdee S, & Beishon S 1997). Many of the respondents also noted that they had experienced racial harassment in a variety of forms including physical abuse and destruction of property (Nazroo JY 2001). This harassment occurred in almost all areas of the respondent's lives, including at work, and was predominantly instigated by strangers (Nazroo JY 2001).

The data on immigrant mortality from the large scale surveys is supported by a number of smaller regional studies looking at various aspects of health in ethnic minority groups, for example the high rates of heart disease in South Asians. The studies tend to be conducted in areas where there are highly concentrated populations of particular ethnic groups, such as Pakistani in Bradford or Bangladeshi in East London (Nazroo JY 2001).

3.4.6.1 Racism in health care/research

A description of the terms 'race' and 'ethnicity' is important, as they are commonly used interchangeably despite meaning quite different things. 'Race' has been used to describe so-called biological variations between geographically separated population groups and implies distinct genetic differences, differences that have been discredited as being very small and often less than between individuals who come from the same 'racial' group (Bhopal R 1997;Chaturvedi N 2001;Smaje C 1995). Ethnicity on the other hand is a complex construct of biology, culture, language, religion and distinct health beliefs and behaviours (Chaturvedi N 2001).

Looking further, racialisation implies that racial groups are distinct in ways such as their behaviour plus the belief in the superiority of some races over others (Bhopal R 1997). The phenotypic (observable characteristics of an individual) characteristics which distinguish races are the result of a small number of genes that do not relate closely to either behaviours or disease (Bhopal R 1997;Chaturvedi N 2001). There are some genetic differences between races however very few differences have been found which directly relate to health (Cooper RS 2003). The differences we see in the health of different ethnic groups is due to "*historical, cultural, and socioeconomic factors, which in turn influence lifestyle and access to health care"* (Pearce N et al. 2004).

Due to the taboo around using the term race, ethnicity has become the favoured terminology for research into the social and cultural factors of health and disease (Bhopal R 1997;Kuper L 1975). Ethnicity, as with culture, is a fluid concept dependent on context, therefore currently the preference is for self assessment into ethnicity (Bhopal R 1997;Senior PA & Bhopal R 1994) – such as was used in the 1991 and 2001 censuses. Ethnicity however is not measurable with

either accuracy or validity (Senior PA & Bhopal R 1994). The term 'ethnic minority' is not without its own concerns though and can be seen as quite contentious for a number of reasons. Firstly, it can imply that there is a homogeneous majority in British society, as well as there being some sort of homogeneity amongst ethnic groups (Hillier S 1991). The term 'Asians' is a good example of this; it is commonly used to encompass a group of people that can be form different geographical regions, have different religions, different languages and different cultures. Secondly, some groups feel that the term is inappropriate as they do not feel they are the 'minority', especially in some areas of London, where they may actually comprise the majority of the local population (Purewal B 2006). The Bangladeshi community in Tower Hamlets for example are the second largest population: 33.4% of the total population versus 42.9% for White British (National Statistics 2004).

The high rates of disease is commonly emphasised in research in minority ethnic groups; both the infectious and non-communicable diseases. This perception of ethnic minorities as being unhealthy can add to the belief that immigrants and ethnic minority communities are a burden (Bhopal R 1997) on the health care system. Following migration of ethnic minority communities from the Indian subcontinent, Africa and the Caribbean, to cope with the shortage of labour after WWII, there began to be health policies that looked specifically at the health of these populations but with emphasis on reducing the risk to the indigenous white population of contracting 'exotic' diseases. Following these initial policies began the growing research into the ethnic differences in morbidity and mortality, for example the rickets campaign directed at the Asian community in 1981 (Bhopal R 1997). These initiatives are considered by many however to be racist, in that they focus exclusively on the culture of people from ethnic minority communities, indicating that they were in some way deficient, for example that they have less healthy lifestyles, have diets that are higher in fatty foods, smoke more and exercise less. Traits which have also been considered typical of those members of the population who are from lower socio-economic classes. Furthermore, these groups are considered to have health behaviours which they are resistant to change, a change of course to the perceived healthier, 'English' way of life. (Pearson M 1986). The persistent personalisation of health by government policy and society continues to divert attention away from the social determinants of ill-health, instead focusing on individual and cultural deficiencies and ignorance – 'they have been told', 'it's up to them to make the changes – if they want to!'; an obviously over simplistic approach. Theories which focus on ethnic differences as the cause of the variation seen in morbidity and mortality fail to take into consideration the effect of social class, in particular, lower social class, which as noted is a major cause of health inequalities; the effect of life-long disadvantage; the role of ecological effects such as residential concentration and segregation; and the effect of living in a racist society (Nazroo J 1998;Nazroo J 1997;Pearce N, Foliaki S, Sporle A, & Cunningham C 2004). In chapter four, the dominant medical model of health care focusing on acute health care issues versus an approach which also incorporates preventative medicine and public health strategies will be addressed, together with the necessity for health care providers to be informed about the attitudes, beliefs and knowledge levels of the target population when designing education and prevention programmes if these programmes are to be meaningful, relevant and effective(Rosenbloom AL, Joe JR, Young RS, & Winter WE 1999).

Our institutions and those working within them can also pose issues regarding racism in health care for ethnic minority communities. Medical management and overall access to healthcare can be complex, involving cultural factors and individual preferences, and the characteristics and practices of the healthcare professionals themselves, including racism, stereotyping, ethnocentricity (tendency to view one's own culture as the standard against which others are judged), discrimination, and lack of cultural safety. The health care delivery system also has an impact, such as composition of the workforce, location of facilities, costs of access, and involvement of different ethnic groups in shaping health policy and allocation of resources (Ibrahim SA, Thomas SB, & Fine MJ 2003;Pearce N, Foliaki S, Sporle A, & Cunningham C 2004).

Ethnic health research has also been criticised for excluding the local community and undervaluing their expertise. Current models deal with the effect rather than the causes of ill-health. The so-called 'whitestream' (Purewal B 2006), selects programmes for the BME community without negotiation or partnership, whereas the community would like the opportunity to define their own programmes and develop sustainable programmes based on their expressed needs. The Director of the Asian Health Agency feels that many programmes, which are instigated, only to later be withdrawn, are racist in that the 'whitestream' provides the assistance and then, at will, takes it away (Purewal B 2006). The BME community tends to lie outside of the mainstream but they do cross the line, in and out. More cross community interactions are required in order to forge relationships which result in effective programme development. The community needs have the power for their self determination. The mainstream often only recognises surface culture, such as 'African's have rhythm', 'how to cook samosas' but nothing to do with power (Chaudhary A 2005).

3.4.7 Social influences on food choice

"When you are unemployed, which is to say when you are underfed, harassed, bored, and miserable, you don't want to eat dull wholesome food. You want something a little bit 'tasty'. There is always some cheaply pleasant thing to tempt you. Let's have three pennorth of chips! Run out and buy us a two penny ice-cream! Put the kettle on and we'll all have a nice cup of tea! That is how your mind works when you are at the PAC.[15] level". (Orwell G 2001)

There are many influences of food choices including the demographic variables of age, gender and social class, together with culture, ethnicity, household composition, attitudes and beliefs. Looking specifically at inequalities, it has been found that people that belong to higher socioeconomic and educational groups tend to have better diets. This may be due to being able to better conceptualize the relationship between diet and health (Cox DN & Anderson AS 2004) but also the fact that those with higher incomes are able to more readily afford high quality, nutritionally balanced diets.

[15] Public Assistance Committee

The amount of disposable income available significantly effects food choice, especially of meat, fruit and vegetables (Cox DN & Anderson AS 2004). Healthier diets often cost more than the abundantly available, cheap, filling, energy-dense foods such as meat products, full cream diary, fats and sugar. These diets are lower in essential nutrients such as calcium, iron, magnesium, folate and vitamin C as well as the protective antioxidants found in abundance in fruits and vegetables (James P et al. 1997). Lower socioeconomic groups may also be limited in their ability to buy healthy foods due inadequate access, both physically and as a result of micro-financial issues which result in only the essential basics being purchased, and the related social variables such as religion which has one of the most influential roles in the choices and subsequent selection of foods (Dindyal S & Dindyal S 2004). So called 'foods deserts', to where access to affordable healthy food is minimal, due to affordability and/or transport, exist, amongst other places, across London (Sustain 2004). The shops that are available are often more expensive, up to 30% more than supermarkets, and have lower quality choices (James P, Nelson M, Ralph A, & Leather S 1997). Low-income households may in fact be very good at budgeting, however as discussed in chapter 1 in the section on 'Foodways - the migrant experience of British Bangladeshis', food may be the only flexible component in the budget. Targeted nutritional and social interventions are required to reverse the cycle of poor health resulting from inequalities.

3.5 Summary

There is a wealth of evidence as to the explanations for the epidemic of obesity, and consequently Type 2 diabetes, that is currently being seen globally, including within the UK. This includes the interaction between an altered lifestyle associated with economic development and urbanisation; genetic factors; and poor maternal/foetal and infant nutrition, together with the socioeconomic factors which are also major determinants of health and illness. These socioeconomic factors are complex, and while the debate continues as to the explanations for these patterns, that is, whether researchers believe that it is the broader, material explanations that result in health inequalities, or whether they consider the psychosocial aspects to be the dominant cause, it is clear that both explanations have a substantial impact. Focusing on the population group for this study, the British Bangladeshi's in the UK, from the evidence presented it is evident that they are a vulnerable population in that they experience the effects of socioeconomic deprivation on a background of rapid dietary and lifestyle transition, and generations of poor maternal and foetal nutrition. This is particularly so for the first and second generation British Bangladeshi's. If there is to be any impact made in the inequalities in health seen in this community then the social conditions that have prevailed throughout history and the life-course need to be considered in any public health nutrition strategy or when developing food policy, promoting changes in the food chain, the physical environment and our culture. Focusing on the traditional, medically orientated, boundaries of nutrition science which take an individualistic approach is a scenario that is likely to see policy continue to fail.

Chapter 4 Food Policy

There is widespread agreement that a comprehensive population-based set of strategies, with the integration of social policy, food policy, advertising, environment, research and transport, is required in order to lessen, and eventually begin to reverse, the current upwards trend of obesity and related NR-NCD's (Swinburn B, Gill T, & Kumanyika s 2005). An individualized, medical approach, which is often supported by policy makers and nutritionists, where education and behavioural change dominate, is unlikely to succeed, as is evidenced by the current failure to halt the rise in obesity. Together with any educational and behavioural strategies, strategies are also required which can alter food formulation of commonly consumed foods together with environmental strategies to alter our increasingly obesogenic environment, thereby enabling healthy food and lifestyle choices to become the 'easy' option.

Obesity, and consequently Type 2 diabetes, is commonly seen as a medical issue with the responsibility often placed firmly on the individual. The rise of obesity and other Nutrition Related Non-Communicable Diseases (NR-NCD's) however extends beyond these parameters into the realm of social policy, including food policy, as has been described in chapter three in the section titled 'Social Epidemiology'. The epidemic of these diseases is a complex, multi-causal issue that calls for multi-stakeholder approaches and action at local, regional, national and international levels, and the recognition that if tackling the rise of obesity and NR-NCD's is to be achieved, then a society-wide approach is required, rather than placing the burden on the shoulders of the individual alone. This section of the paper will provide an outline of the policy relevance of the research – why it matters – before moving on to an in-depth analysis and discussion of the implications of the findings. The key Public Health documents in the UK will be encapsulated, addressing what the current policy issues are, what is missing, what sort of information affects policy decisions and what evidence results in policy shifts.

Presently, there is a major challenge to integrate efforts aimed at preventing NR-NCD's into policies such as social policy, food policy, advertising, environment, research and transport. Politicians in the developing countries have for decades had to focus on the issues of both hunger and infectious diseases. Now they also face a major challenge with having to direct the focus towards the prevention of obesity and other NR-NCDs; a challenge they must face due to the rapidity of the increases in many countries. In developed countries, including the UK, there is also the need to re-focus food policy away from the policies based on poor nutrition after World War II to one where the obesity epidemic and its consequences are being addressed.

Additionally, it is necessary to move away from the dominant medical model of health care which focuses on acute health care issues and palliative interventions, to one which also incorporates preventative medicine, and public health strategies, to a greater extent.
The concern for diet-related ill-health in the UK was fuelled by the WANLESS reports (MacMillan T 2006), the first of which, 'Securing Our Future Health: Taking a Long-Term View' (Wanless D 2002), provided an assessment of the resources required to provide good quality health services in the future, the second, 'Securing Good Health for the Whole Population'

(Wanless D 2004), going on to have a particular focus on prevention and the wider determinants of health in England, together with an assessment of the cost-effectiveness of any actions taken to improve the health of the whole of the population and the reduction of the inequalities seen in health. This second report notes that obesity and health inequalities, together with smoking, are the key threats to future health which need to be tackled now and that while individuals are, and should continue to be, primarily responsible for their own and their children's decisions about their personal health and lifestyle, this does not preclude government, and other organisations in society, including private businesses, from their responsibilities in assisting individuals to make better decisions and minimising barriers to making healthful choices. There is a recognition that rather than making the individual responsible for their unhealthy behaviour, the broader socio-economic, environmental and cultural influences also need to be addressed before we can hope to successfully reduce the rise of non-communicable diseases (NCD's) and their long-term consequences. Furthermore, in the development of prevention programmes there is the need to ensure that they are culturally appropriate, which necessitates analysis of socio-cultural health beliefs and behaviours as well as the level of knowledge about the disease held by the programme recipients (Rosenbloom AL, Joe JR, Young RS, & Winter WE 1999). There is a necessity for health care providers to be informed about the attitudes, beliefs and knowledge levels of the target population when designing education and prevention programmes if these programmes are to be meaningful, relevant and effective (Rosenbloom AL, Joe JR, Young RS, & Winter WE 1999).

4.0 The Burden of Disease - consequences and costs

Chronic NCD's, such as obesity and Type 2 diabetes, were projected to result in the death of 35 million people – 60% of all deaths worldwide in 2005 (World Health Organisation 2005). While cardiovascular disease (heart disease and stroke) is the leading cause – 30% - the contribution of diabetes is underestimated, the cause of death often being attributed to the secondary complications such as heart disease or kidney failure rather than to diabetes itself (World Health Organisation 2005). Together with the high mortality rate as a result of chronic disease, there is also a high level of morbidity, with chronic diseases causing significant disability, often for many years of a person's life, and becoming more so as the age people are developing these chronic diseases is becoming younger. Generally there are three ways which the burden of ill-health can be measured – mortality, morbidity and economic (Rayner M & Scarborough P 2005). For Health Policy purposes, the burden of ill-health is generally best measured in terms of morbidity and mortality (Rayner M & Scarborough P 2005), with Disability Adjusted Life Year (DALY) being the most commonly used measure of the burden of disease (World Health Organisation 2005). DALY combines the number of healthy years of life lost with the time spent in sub-optimal health; one DALY is equivalent to one lost healthy year of life (World Health Organisation 2005). This should not be confused with Quality Adjusted Life Years (QALYs) which is a measure of the outcome of actions in terms of their impact on health (Commonwealth of Australia 1996)[16]. The 30 – 59 year old age group experiences the greatest loss of DALY's

[16] QALY: If an action gives a person an extra year of healthy life expectancy, that counts as one QALY. If an action gives a person an extra year of unhealthy life expectancy (partly disabled or in some distress), it has a value of less than

caused by chronic disease, with approximately 86% of the burden being in people under 70 years (World Health Organisation 2005). Self reported health at the household measure is subjective measure than can be used to compliment this objective data on health status, for while people tend to be well informed about their health status and the positive and negative effects of their behaviour on their health, their personal perceptions of health can differ from what the objective data show about levels of illness within populations and thus are an important adjunct (World Health Organisation 2006d). The United Kingdom 2001 Census for example includes self reported health in the data collected showing that for Bangladeshi and Pakistani men and women in England and Wales they reported the highest rates of 'not good' health in 2001(Office of National Statistics 2004). Reporting poor health has been shown to be strongly associated with use of health services and mortality and for Bangladeshi men they were found to be three times as likely to visit their GP as men in the general population after standardising for age (Office of National Statistics 2004).

For wider policy areas, measures such as the Health Development Index used by the United Nations Development Programme, can be used to measure the "average achievements in a country in three basic dimensions of human development: a long and healthy life, as measured by life expectancy at birth; knowledge, as measured by the adult literacy rate and the combined gross enrolment ratio for primary, secondary and tertiary schools; and a decent standard of living, as measured by GDP per capita in purchasing power parity (PPP) US dollars. The index is constructed from indicators that are currently available globally using a methodology that is simple and transparent" (UNDP 2005). For high-income countries, an alternative index—the human poverty index - can better reflect the extent of human deprivation that still exist among the populations and help direct the focus of public policies (UNDP 2005). For areas such as the cost of different food policies, the accepted nomenclature for measurement is in economic terms (Rayner M & Scarborough P 2005). Rayner and Scarborough (2005) note that quantifying the burden of ill-health related to diet however is problematic, with few studies being carried out, many of which being methodologically poor. They note that the best data available, together with their own (Rayner M & Scarborough P 2005), was from two studies, one in Australia (Mathers D et al. 2001) and one in Sweden (National Institute of Public Health 1997). It was found that 15.5% of DALY's lost in the WHO-EUR-A region, 2000 - developed economies such as the UK - was attributable to diet, including overweight (Rayner M & Scarborough P 2005); the Australian and Swedish studies attributed about 10% (Mathers D, Vos ET, Stevenson CE, & Begg SJ 2001;National Institute of Public Health 1997). When considering the impact of different diseases on the NHS in the UK, the best source of data is from a study done by the NHS Executive in 1996 (NHS Executive 1996;Rayner M & Scarborough P 2005). From this data, Rayner & Scarborough (2005) estimate that 12% of total NHS costs in 1992/1993 are from cardiovascular disease (CVD) and 2% from diabetes (and other diseases of the hormonal and immune systems). Using further data from the Wanless Report (Wanless D 2002) and DoH (Department of Health 2004b), they go on to suggest that approximately 28% of NHS costs can be attributable to food related diseases (CVD, diabetes, cancer, dental carries) which equates to £18 billion annually in 2002; the majority of this from CVD and cancer, however, while diabetes

---

one. Death is rated at zero. It is debatable whether QALY is useful index for those managing the provision of health care (Carr-Hill RA 1989;Schwappach DL 2002).

therefore appears to be responsible for a smaller component of health care costs, as noted previously, CVD is a common secondary complication of Type 2 diabetes thus the two are not mutually exclusive. Relating the costs of the food related diseases back to DALY's, Rayner and Scarborough (2005) estimate that as about one third of DALY's are attributable to food related disease this then equates to about £6 billion, more than three times the commonly quoted estimate for smoking and significantly higher than the £479 million annually quoted for obesity. But, despite the high economic and social burden of NR-NCD's, it has been alleged that the government policies that result in 'cheap food' have merely led to an externalisation of health costs, as while food may be cheap at the point of sale, the taxpayer will pay the additional costs to health care later (Lang T & Rayner G 2003). The agricultural subsidies, and in particular Europe's € 40 billion per year Common Agricultural Policy (CAP), have until recently supported the production of meat, cheese, milk, butter and grains for animal feeds whereas fruit, vegetables and fish were disadvantaged (Agren G 2003;Food Ethics Council 2005). In 2004 reforms were made to the CAP which should see the direct subsidies which promoted the production of dairy fats and oilseed progressively reduced, however it unknown yet whether they will succeed (Food Ethics Council 2005;Lang T & Rayner M 2005b). Another example can be found in the case of Eastern Europe which is undergoing a transition of its food supplies, much as a result of Foreign Direct Investment (FDI) in the region. An analysis by the Organisation for Economic Co-operation and Development has found the 60% of this FDI is in agri-food production for sugar, confectionary and soft drinks (Dalmeny K, Hanna E, & Lobstein T 2003b). The following section shall go on to expand on public health policy, or lack thereof, in England plus globally, particularly in relation to the prevention of NCD's.

4.1 Public Health Policy – obesity policy

In the 19th century Public Health Policy was concerned with hygiene and sanitation, improved standards of living through better housing and nutrition, and improved employment conditions following the establishment of Trade Unions (Baum F 2002). The old Public Health Nutrition focused on efforts to tackle the problems of food insecurity and malnutrition (Beaudry M, Hamelin A-M, & Delisle H 2004) and thus was unable to resist the rise of non-communicable diseases (Lang T & Rayner M 2005a). As a consequence, from the mid-1980's onwards, 'new' public health was influenced at a global level by WHO policies, and in particular the *Alma Ata Declaration of Health for All* (World Health Organisation 1978) and later the *Ottawa Charter* (World Health Organisation 1986), which focused on collective measures, and had an emphasis on poverty and social justice in public health policies (Baum F 2002), together with a move away from palliative care towards prevention (Baum F 2002;Lang T & Rayner M 2005a). More recently, in the 21st century, there has been a move towards what has been called 'ecological' public health where there is an increasingly widespread recognition that changes in the social and physical environment will be required in order to change nutrition patterns and increase physical activity. The majority of nutrition related problems in society result from causes outside of the health sector, especially with regard to food systems (Beaudry M, Hamelin A-M, & Delisle H 2004). In this paradigm therefore, obesity is regarded as a normal response to an abnormal environment, rather than vice versa, and the ecological approach to obesity and the

management of NR-NCD's sees societal and environmental changes laid on top of genetic susceptibility (Egger G & Swinburn B 1997). Approaches to improve public nutrition need to focus on the assessment of problems and analysis of their determinants but at the same time engage civil society, the private sector and government. By doing this, it will enable the analysis and recommendation of policies which will target the environment and social inequalities together with empowering individuals to adopt healthy lifestyles by making positive diet and activity choices (Beaudry M, Hamelin A-M, & Delisle H 2004).

In developed countries the role of the food industry is acknowledged to be vital in producing the macro-level changes, and most countries do propose to get co-operation from food manufacturers to produce healthier foods, for example reduction of fat content of ready meals, however the mechanisms to make these changes are not described (Crombie IK et al. 2005a). The World Health Organisation (World Health Organisation 2004) recommends fiscal and legislative interventions, as do many scientific articles (Carlos PostonII WS & Foreyt JP 1999;Hill JO et al. 2003;Marshall T 2000) however there is little mention of funding for proposed interventions nor are there specific proposal for these actions in most policy documents (Crombie IK, Irvine L, Elliott L, & Wallace H 2005a). Voluntary approaches are unlikely to work (Davis S 2006).

Despite the considerable health costs associated with diet related ill-health, public health policy with respect to obesity tends to explore options rather than provide a comprehensive set of interventions to reduce obesity (Crombie IK et al. 2005b); the policy environment is open to concepts but struggles with the conceptual framework to deliver. While it is acknowledged that there is a requirement for individuals to make changes and accept some responsibility, it can be argued that this is of secondary importance compared to the impact of macro-level environmental change. There is no one strategic body in England to push for policy changes, including food policy, as with the North Karelia project in Finland (Puska P 2002), which used a comprehensive range of activities, involving health and other services, schools, NGO's, media campaigns - including local media, supermarkets, food industry and agriculture, in order to reduce the burden of cardiovascular disease initially, and then other NCD's. In fact, only broad areas of action are specified in most countries, but with little commitment, and while they all stress the importance in intersectorial working, how this is to be achieved is not well documented (Crombie IK, Irvine L, Elliott L, & Wallace H 2005b). In England for example, there is currently no National Service Framework for obesity in England and neither the NSF for Coronary Heart Disease (Department of Health 2000) nor NSF for diabetes (Department of Health 2001b), has specific dietary targets or standards for dietary improvement. There has been increasing policy interest however over the last few years however (Aicken C, Arai L, & Roberts H 2008), particularly relating to childhood overweight and obesity with the UK Government launching 'Healthy Weight, Healthy Lives: A Cross Government Strategy for England' in 2008. Whilst in the USA, at the Weight of the Nation conference, the Centres for Disease Control and Prevention (CDC) announced its first comprehensive set of recommended strategies and measures to help communities tackle the problem of obesity through environmental change and policies that promote healthy eating and physical activity (MMWR

2009). Additionally, the Scottish Government have now published a 'Route Map' (Donnelley R 2010)for the prevention of overweight and obesity with a joint governmental leadership group, including Ministers, COSLA[17] leaders and key stakeholders including the NHS and the public health community ensuring its implementation by holding decision-makers to account. At the time of the research for this thesis, only Australia (National Health & Medical Research council 1997) and New Zealand (Crombie IK, Irvine L, Elliott L, & Wallace H 2005a;Ministry of Health 2003a;Ministry of Health 2003b) had stand alone policies on obesity, with England, the USA and Denmark having sections within their overall public health policy (Crombie IK, Irvine L, Elliott L, & Wallace H 2005b). Further details of obesity strategies for Australia, New Zealand and the UK shall be outlined in the following sections, including progress since this piece of research was undertaken.

4.1.1 Australian obesity policy

Australia was one of the first countries to develop an integrated national strategy for the prevention of overweight and obesity (Nathan SA et al. 2005) - *Acting on Australia's weight: a strategic plan for the prevention of overweight and obesity* (National Health & Medical Research council 1997). This was a 10 year plan proposing the main influences on the development of overweight and obesity are biological, environmental and behavioural, although states that the majority of overweight and obesity are a result of lifestyle and environmental factors (Crombie IK, Irvine L, Elliott L, & Wallace H 2005a). Environment can be broadly categorised into "macro" (of the wider population) and "micro" (with close proximity to the individual) (Egger G & Swinburn B 1997). The plan sees the opportunities for intervention in environmental factors and by influencing lifestyle, thus a supportive macro-environment of food supply is the main public health strategy, together with influencing the micro-environment of target groups via programmes to influence behaviour (Crombie IK, Irvine L, Elliott L, & Wallace H 2005a;National Health & Medical Research council 1997). Further national cooperation, with a particular focus on childhood obesity, was been seen following on from the New South Wales Childhood Obesity Summit 2002 (Lin V & Robinson P 2005). A National Obesity Taskforce was agreed by Australian Health Ministers, and *Healthy Weight 2008 - Australia's Future* (Australian Government Department of Health and Ageing 2003), a four year plan to address obesity in children and young people, was released by the Commonwealth. Again, there was a broad focus on developing supportive environments to support healthy lifestyles. In July 2006 the Australian Commonwealth Government also announced a new ministerial taskforce to tackle rising obesity rates which will coordinate the anti-obesity campaign involving government, industry and community. A series of surveys will also be undertaken by the government to determine what Australians are eating and their levels of physical activity, beginning with children. It was intended that the information from these surveys would inform preventive activities to reduce the incidence of obesity as well as chronic diseases such as cardiovascular disease and Type 2 diabetes. There was a significant emphasis on personal responsibility and avoidance of 'telling' individuals what to due –the 'nanny state' as it is known in the UK:

[17] Convention of Scottish Local Authorities

"Helping consumers make informed choices about their lifestyle, particularly about the food they eat, is an important role for industry as well as government. The Government wants to support, motivate and educate Australians to build a healthy, active life, not to regulate or ban". (Abbott T 2006)

In 2008, under the new Rudd Labour Government, a National Preventative Health Taskforce was established, subsequently launching the National Preventative Health Strategy (Preventative Health Taskforce 2009) which provides a framework for tackling the burden of chronic disease currently caused by obesity, tobacco, and excessive consumption of alcohol. It is directed at primary prevention, addressing relevant arms of policy and all available points of leverage, in the health and non-health sectors, and outling targets and key action areas for each priority area. For obesity, the aim of this strategy is to halt and reverse the rise in overweight and obesity in Australia by 2020. Technical papers have also been developed focusing on the three key areas - obesity, tobacco and alcohol. The technical paper, 'Obesity in Australia: a need for urgent action' (Obesity Working Group 2009) being prepared by the obesity working group.

4.1.2 New Zealand Obesity Policy

New Zealand's *Healthy Eating – Healthy Action* (Crombie IK, Irvine L, Elliott L, & Wallace H 2005a;Ministry of Health 2003b) is a five year plan that has a fundamental recognition, as with Australia's strategy, that environmental modification, together with behaviour change to improve nutrition, physical activity and reduce obesity, is necessary (Crombie IK, Irvine L, Elliott L, & Wallace H 2005a). Subsequently, clinical guidelines for Weight Management in New Zealand Adults, and Children and Young People were published in 2009 (Ministry of Health and Clinical Trials Research 2009;Ministry of Health 2009).

4.1.3 UK obesity policy

The Choosing Health white paper (Department of Health 2004a), to be discussed further in section 4.2, set out the key principles for supporting the public to make healthier and more informed choices in regards to their health. The emphasis was personal responsibility for health, including dietary, and on personal choice. In 2006 the National Institute for Health and Clinical Excellence (NICE) then published guidelines (NICE 2006) on the prevention, identification, assessment and management of overweight and obesity in adults and children. These guidelines contain recommendations for the public, the NHS, local authorities (LAs) and partners in the community, which can be put into practice in early-years settings, schools and workplaces, and in self-help, commercial and community programmes. Some of the recommendations are at a strategic level, while others are at delivery level and the types of factors and interventions covered range from individual to environmental and structural levels. The Foresight Tackling Obesities: Future Choices Project[18] launched its findings 2007. This report (Foresight 2007) was seen as the most systematic attempt to date to understand the reasons for, and possible future scenarios, related to obesity generally. Also in 2007, the

[18] The Project's Director was Sir David King, Chief Scientific Adviser at the Government Office for Science, and was overseen by a high level Stakeholder Group chaired by Dawn Primarolo, Minister of State for Public Health

Comprehensive Spending Review (CSR) announced 30 new Public Service Agreements (PSA) for the 2008 – 2011 spending period, applicable to England. As part of CSR 07 announcement the government announced their new long-term ambition:
"Our ambition is to be the first major nation to reverse the rising tide of obesity and overweight in the population by ensuring that everyone is able to achieve and maintain a healthy weight. Our initial focus will be on children: by 2020, we aim to reduce the proportion of overweight and obese children to 2000 levels."

This new ambition formed part of the Government's new commitment to Child Health and Well-being (children under 11). Tackling child obesity became a national priority for the National Health Service (NHS) and local health care and delivery providers, from April 2008. PSA 12 concerned Improving the Health and Wellbeing of Children and Young People and included an indicator on the levels of obesity by which progress was to be measured. National Support Teams (NSTs) were established by the Department of health to support local areas at risk of not meeting key public health targets. The Childhood Obesity NST being the fifth NST to be established in September 2007. In 2008, the Government then established the Cross-Government Obesity Unit, jointly led by the Department of Health (DH) and the Department for Children, Schools and Families (DCSF) and *Healthy Weight, Healthy lives: A cross government strategy for obesity* (Department of Health 2008c) was published together with a number of associated supporting documents including a guidance for local areas (Department of Health 2008d) and a toolkit for developing local strategies (Swanton K 2008). The associated guidance set out what actions PCTs and local authorities, and their partners, can take to deliver their child obesity goals as part of the NHS Operating Framework Vital Signs and the Local Government National Indicator Set.

A movement is also developing in the UK to deal with the nutritional, social, economic problems created by hot food takeaways, at national, local and international levels however large scale regulatory changes have not yet been established such as relating to current planning policy. In London, specific case examples include Waltham Forest[19], Tower Hamlets and, Barking and Dagenham[20] who are all pioneering ways to restrict take-away outlets. There remain difficulties however in understanding how to work across organisations and their differing cultures, for example the NHS and Local Authorities with respect to health and the built environment and planning policy, although case examples of good initiatives do exist and progress is also being made. Organisations such as NHS London Healthy Urban Development Unit (HUDU)[21] aim to improve communication and cooperation between the spatial planning and health sectors in London, and the recently established Education Network for Healthier Settlements[22], is a national network of Higher Education Institutions who are promoting the integration of health issues into the teaching and learning of built environment professionals. The project is funded through the Department of Health Workforce Unit and the Cross Government Obesity Unit.

[19] http://www.walthamforest.gov.uk/index/environment/planning/planningpolicy/local-dev-framework/hot-food-takeaway-shops.htm
[20] http://www.lbbd.gov.uk/8-leisure-envir/planning/local-dev-framework/hot-food-takeaways.html
[21] http://www.healthyurbandevelopment.nhs.uk/
[22] http://www.bne.uwe.ac.uk/who/enhs/

4.2 The Focus on Individuals - personalisation

In the context of the UK today, policy development has seen a shift away from the traditional politics of 'left' and 'right', to a 'third way', as a result of globalisation. The balance of power has been shifted to economies with an erosion of national governance and the hollowing out of the state. The different parties are trying to deal with globalisation in different ways (Vogler C 2005): the Conservative approach is towards private health, reduced taxation, reduced government spending and privatisation of services; New Labour has an acceptance of the overall framework of globalisation but is seen to be trying to "smooth the sharp edges" by taxing as much as possible and providing the minimum on a national basis, but there is also a shift towards increased responsibility as citizens, such as parents being responsible for their children's behaviour, council tenancy being conditional on behaviour and of course increased responsibility for health, including dietary health, as outlined in the Public Health White Paper – *Choosing Health (Department of Health 2004a)*. The cross-government strategy for obesity, whilst acknowledging the issues associated with the modern environment including the built environment, significant emphasis continues to be on personal responsibility and making healthy choices around the food we eat and the exercise we take. The associated Change4Life[23] Social Marketing campaign talks to parents about diet and physical activity, aiming to be the catalyst for a societal shift in English lifestyles, resulting in fundamental changes to those behaviours that lead to people becoming overweight and obese. With the Healthy Towns programme, while having a number of initiatives relating to making healthier choices easy and the built environment, the majority continue to relate to personal behaviour change for example, education programmes and incentivisation schemes.

The heavy emphasis from government on personal choice, results in the convergent trend of the governments health policy efforts being aligned with the consumer sectors own consumer management and marketing methods (MacMillan T 2006). Personalisation is being dropped into a market force context and replacing a systematic public health approach; government stresses the responsibilities of others, but by not addressing the macro-level issues they fail to meet their human rights responsibilities (MacMillan T 2006). For many members of society they are unable to choose whether or not they have sufficient income to buy healthy food or enjoy the benefits of local safe green spaces for outdoor activities (UKPHA 2004); it is these individuals that are most effected by the burden of NR-NCD's. But while the government is placing a heavy emphasis on the principal of personal/informed choice, it has recognised that children, at least, need a protected environment as they learn to make healthy lifestyle choices (Caraher M & Lang T 2006).

It has also been noted that personalised health can have two very different meanings. The first is where public health efforts target particular groups, seeking to empower them, the other however has much more negative connotations and works to castigate people into taking responsibility for their actions (Food Ethics Council 2006). It is this later, negative, meaning that is gaining favour in some areas, as noted in a recent academic and policy documents

[23] http://www.dh.gov.uk/en/MediaCentre/Currentcampaigns/Change4Life/DH_092080

(Alexandratos N 2006;Schmidthuber J 2005) and can be seen in media reports. Giles Coren for example, Times columnist and restaurant critic, has been calling for people who are obese to pay. In his article with the derisory title of: "*Shouldn't we tax fatties"* (Coren G 2006a), Coren takes the moral high ground stating that the money to pay for the health care of the overweight and obese comes "*from the taxes paid by thin, healthy people like me. People with a bit of self-control. People who are able to say 'no thanks, I'm full' when offered second helpings of pud*". He then follows this article up with a documentary *Tax the Fat*, shown on More4, where we again see Giles putting the blame firmly on people for their unhealthy choices stating: *"fat people are not being held to account"* and we need to *"see to it that porkers pay"* (Coren G 2006b). Others believe however that these negative approaches do not work (Food Ethics Council 2006) and serve only to vilify, who can be, some of the most vulnerable members of society. But while Conran's approach is popularisation of the debate on issues of public good and public utility, and that of the effects of the regressive effects of a tax on the poor, there is a serious debate to be had here. The tax on tobacco as a public health tool has been partially successful but whether the same approach can be applied to food is questionable– tobacco and food are after all very different issues. Tobacco is addictive and habit forming, and importantly, there are also the negative health impacts of passive smoking; food on the other hand, apart from the nutritive benefits, has complex social and cultural significance (Caraher M & Carr-Hill RA 2006). The current trend for taxation will be explored in section 4.3.2 – demand-side interventions, and the uniqueness of food will be discussed in section 4.3.3.

4.2.1 Personalised Nutrition

Dietary guidelines saw the beginning of nutrition policy in industrialised countries, although they are individualistic and have few links to culture or the political agenda, and today, conventional nutrition science remains largely within a biochemical frame (Lennon D & Fieldhouse P 1982). The field of 'food' can be seen to have two distinct paradigms (Duff 2004): firstly, rational individualisation, which places an emphasis on the voluntary aspects of food choices, and secondly, structuralism, which emphasizes the way that food production, processing and marketing shapes the choices open to us. Rational individualism is most evident in expert advice whereby the idealised consumer is able to put nutrition science into practice thereby maximising their own health. But food choices are not made in a vacuum as food is part of an individual and cultural identity and not just health. The *Choosing Health* white paper however puts freedom of choice in the hands of the individual but arguing that when the choices are made that they should be for health; the doctrine of informed choice which is central to medical treatment is being extended into preventative healthcare (Food Ethics Council 2005), with food becoming medicalised[24]. Many current public health nutrition strategies are, to a large extent, based on a biomedical model of diet that requires individual consumers to comply voluntarily with dietary advice; this is weakened however by industrialised agriculture and food production (Germov J & Williams L 2004). The focus of such approaches is individualised and the responsibility personal (Lawrence M & Germov J 2004), but people should not have to 'choose

[24] Medicalisation refers to adopting medical terms and treatments for non-medical, social problems, so food for example is treated like a drug that can prevent diseases (Food Ethics Council 2005).

health' in order to eat healthily; rather it is the responsibility of the government to ensure that our 'default' choices are better for our health (Food Ethics Council 2005) rather than the current situation where those foods laden with calories, fat, salt and sugar are often the most readily available. Furthermore, many of the current education strategies aimed at encouraging people to make the 'right choice' have little regard for social or economic circumstances; it is well documented that low income consumers have limited access to adequate food and that efforts are channelled into minimising waste. Poor diets are not a result of ignorance but rather to do with survival (Hitchman C et al. 2002). And nobody can profess to being 100% pure; we are all hypocrites to some extent. The debate around responsibility should not be allowed to degenerate into 'who is purer than whom'; it is not about the good and virtuous versus the bad and ignorant, but rather about systems, industrial systems that can't be changed by purchasing practices alone (Schlosser E 2006). Education strategies also tend to be developed with the Caucasian population and thus may not appropriate for ethnic minority communities, and have been developed to work with individuals and not populations. The reductionist, biomedical model of nutrition has an interest in nutrients as a key factor in individually determined health, and thus the tailoring of diets to individual needs (Lang T 2005). This personalised view of nutrition, legitimises investment in functional foods and nutraceuticals, and results in technical fixes for diseases that require expert-led knowledge and turn food into medicine (Lang T 2005); further discussion on these 'techno foods' will follow in section 4.2.1.2. So while there may be an increased recognition of an ecological approach to public health policy, what is being put into practice remains reminiscent of a more reductionist approach.

Before we can argue about personalised choice we need to understand the culture and context in which those choices take place and how the choices are formed; the influence of the concentrated power of corporations. Currently in the United Kingdom, 80% of the food is controlled by the four largest supermarket companies; and through the push for cheap food, slotting fees, promotional fees and private labels the supermarkets wield enormous power over what is consumed (Schlosser E 2006). Add to this the enormous marketing budgets and the influence of advertising and can we really say that the fight is fair? (The following section provides further details regarding the issue of advertising and the implications for food choice). Even for those individuals where choice can be more readily exercised it can be argued that the influence considerable:

"consumer decisions are profoundly affected and influenced by the powerful and all pervasive impact of the advertising and promotional activities of the food and drink industry, which is driven by the need to increase sales and maximize shareholder value rather than to promote the public's health" (UKPHA 2004).

Surely we need to ask - what about Corporate and State responsibility? The production of cheap foods via industrialised agriculture and subsidies, while being cheaper for consumers, is often disastrous for farmers, producers, workers, the environment and animals, and in the long run result in the rise of the NR-NCD's that are currently afflicting societies across the globe. None of this will change as a result of individual choice.

4.2.1.1 Food advertising

As already noted people do not make their food choices in a vacuum, and food advertising is an area that can potentially have significant impact on foods consumed. Figure 4.1, the two food pyramids, provides an example of how advertising is unbalanced. On the left the 'Healthy Food Pyramid' illustrates the recommended portions of food groups for a nutritionally balanced diet, with the shaded area being the fatty and sugary foods which should be eaten sparingly. The pyramid on the right illustrates the pattern of children's advertising in which food dominates, and clearly demonstrates the disproportionate level associate with the fatty and sugary foods, that is, the advertised diet is out of kilter with the recommended diet. Five product categories dominate: soft drinks, pre-sugared cereals, confectionery, snacks and fast food restaurants (Caraher M & Lang T 2006;Hastings G et al. 2003).

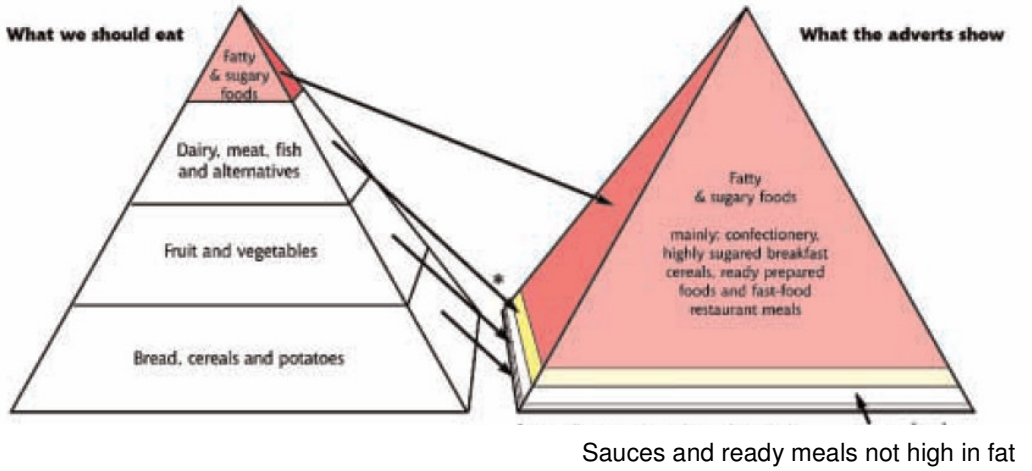


Figure 4.1 The two food pyramids (Dalmeny K, Hanna E, & Lobstein T 2003b)

The White Paper (Department of Health 2004a) states that they need creative social marketing techniques in promoting health, but while the idea may have some merit, a government campaign can not hope to effectively compete with the extraordinary advertising budget of food companies. Government health promotion campaigns for healthy eating amount to only about one hundredth of that the food industry spends on advertising - £7m versus £743m in 2003/2004 (Department of Health 2004a;Food Ethics Council 2005). Even the substantial amount being spend on the Change4Life social marketing campaign in England, £70m for the 2008 – 2011 spending period, remains dwarfed compared to the that of the food industry. Between 2003 and 2007, in the UK, annual spend for overall food and drink advertisements across all media increased by 19%. In comparison however, annual spend for child-themed food and drink advertisements across all media decreased by almost half in this same period, falling 41% from £103m in 2003 to £61m in 2007 (Department of Health 2008a). Looking at an international level, the advertising budget for the world food industry was estimated at $40 billion in 2001, an amount greater than and GDP of 70% of the world's nations. Or put another way, for every $1 spent by the WHO to improve the nutrition of the world's population, the food industry spends $500 on advertising processed foods (Dalmeny K, Hanna E, & Lobstein T

2003a;Dalmeny K, Hanna E, & Lobstein T 2003b). Furthermore, there is a dichotomy the approaches to marketing:

"*when the Government seeks to influence people's behaviour, it is called nannying, but when big business does it, it is dressed up as offering choice" (UKPHA 2004).*

Choosing Health: making healthy choices easier (Department of Health 2004a), published in November 2004 set out the UK Government commitment to change the nature and balance of food and drink advertising to children. This was reaffirmed this commitment in *Healthy Weight, Healthy Lives* (Department of Health 2008c)where the Government layed out a commitment to work with industry leaders on a voluntary Healthy Food Code of Good Practice which has as one of it's elements to:

'Rebalance marketing, promotion, advertising and point of sale placement so that we reduce the exposure of children to the promotion of foods that are high in fat, salt or sugar, and increase their exposure to healthy options.'(Department of Health 2008a).

And despite all this, Ofcom, the broadcasting regulator, has failed to support the government commitment to protect children from advertising of fatty and sugary foods, by ruling out the option put forward to protect children from advertising up to the 9pm watershed, the only option that had the support of health, consumer and food groups, stating that while they recognise that advertising has a 'modest' direct effect on childhood dietary habits*, "other factors in the family home, playground, school dining room and playing fields have a greater role in driving up levels of childhood obesity"* (Ofcom 2006). This calls into question the independence of the body especially considering that Ofcom was found to have consulted with industry groups 29 times when drawing up the proposals, but had only four meetings with health and consumer groups (Watts R 2006). Current regulations only prevent the advertising of "less healthy" products during programmes of particular appeal to under 16's. Research from Which?(Which? 2008) however has found that that 16 of the 20 programmes showing ads that were watched by the highest numbers of children weren't affected by the restrictions.

In Australia, the federal Health Minister in the previous Liberal Government, Tony Abbott, dismissed calls for a ban on food advertisements for children, stating that there was no evidence to support such action and that there was reluctance to regulate. The practice adopted in Quebec and Sweden was said by Mr Abbott to have no obvious impact on obesity rates, and their policy reputed to be a tokenistic soft option. Instead, increased education was seen as key:

"What's really needed is more information and awareness about what the food we are putting into our mouths is doing to us," (ABC News Online 2006).

The recently established National Preventative Health Taskforce in Australia, under the Rudd Labour Government, does however recognise the need to protect children and others from inappropriate advertising of unhealthy foods and beverages (Obesity Working Group 2009).

Information and awareness is a strategy unlikely to impact on those who are most effected by the obesity problem; rather education and behaviour change tend to have the biggest impact on the more affluent with higher educational attainment (Swinburn B & Egger G 2002). The lobbying power of the industry groups is evident and as noted by Marion Nestle (Nestle M 2002), they work tirelessly to convince government, Health Care Professional's and others that their products promote health or at a minimum at least do no harm. While we should not rely on food companies to take the lead for public health, the food industry should bear a degree of responsibility for ensuring default food choices are healthy (MacMillan T 2006). If voluntary regulation fails, it is yet to be seen if the government will introduce statutory regulation.

The portrayal of personal choice as the key issue for improved public health also puts a focus on individuals as consumers rather than citizens (UKPHA 2004). Social marketing has an underlying principle that if individuals do not make a 'rational' choice of the healthy options available in the marketplace then this is a result of faulty behaviours and beliefs (Lang T & Rayner G 2006). But the fact that there is an ever growing diet industry contradicts the argument that people are 'choosing' to gain weight by a combination of gluttony and sloth; rather, the population continues to 'grow' despite their growing concern for their health. The proliferation of programmes on the subject of food and health, with varying messages and approaches, provide good evidence for this: *You Are What You Eat (*Channel 4); *Honey, We're Killing the Kids* (BBC Three); *How to Live Longer* (BBC); *Celebrity Fit Club* (ITV) and *The Diet Doctors* (Five). These TV programmes, together with countless articles in magazines and newspapers, and diet books, all emphasise gaining self-control and portray a moral panic about nutritional wellbeing and obesity. But while the wealthy can afford to implement the individualised diet and activity plans due to the luxury of 'real choice', they are not the ones facing the burden of ill-health. Those that are the most vulnerable have the least choice but are shouldering the largest responsibility. An example of the divide between what is considered acceptable to improve health and wellbeing for the 'upper' and 'lower' classes can be seen in an article which appeared in *the guardian weekend.* Readers, (mostly the educated middle class), were invited to try a 'pantry detox' whereby wellbeing group – Yhom – would have a nutritionist clear your pantry of unhealthy, non-nourishing and processed foods for £150, with the 'outlawed' foods then being donated to the homeless! (Murphy S 2005). Double standards?

4.2.1.2 'Techno' foods

A further aspect to the personalisation of public health nutrition is that of the development of 'techno' foods which advocates lay claim to having a role in delaying the onset of disease, for optimising well being and maintaining good health.

This growing trend for personalised nutrition is most evident from the way in which food companies are 'reinventing' themselves by developing *functional* foods that claim to suit the individual dietary needs of consumers. This approach, as with the government's public health approach, treats food like medicine and goes hand in hand with a focus on 'wellness'. Personalised nutrition increases consumer demand for healthy foods and places the onus on

individuals to make the 'correct' choices to improve their own health (Department of Health 2004a;Food Ethics Council 2005). Food companies focus on adding value to functional foods marketed at the so-called 'healthy wealthy' or 'worried well'; the poor, precisely the people who are most likely to need these foods in public health terms, can have community based programmes and administer their own health. In a time where the concern about dietary health is ever increasing, the marketing of functional foods has the primary objective of boosting sales, not a health message that it is possible to achieve good health without such products (Food Ethics Council 2005). This approach is disempowering in that it promotes all health as sub-optimal; the only way to get over this is for 'you' to do something about it. It is the antithesis of the human right to adequate food; any policy emphasis on personal responsibilities needs to be supported by a commitment to build people's capacity to eat healthily (Dowler L 2006).

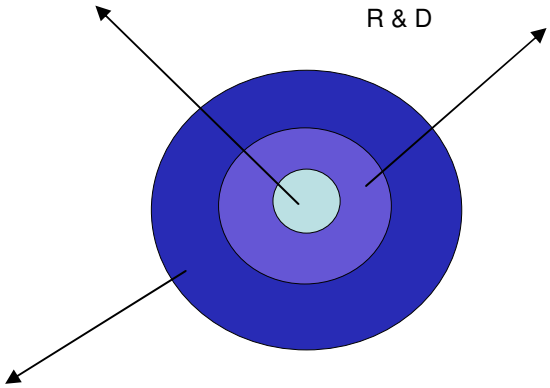
These more targeted measures to improve nutrition are being seen by many policy makers and nutritionists as being imperative if we are to be able to change people's behaviour and eating habits and deliver improved public health (Food Ethics Council 2006). The move towards developing more and more 'techno' foods – fortification, functional foods and nutraceuticals - is however a reductionist approach; aiming to deal with a complex social issue with a simplistic individualised strategy (Nestle M 2002). Fortifying poor quality foods with vitamins and minerals, or developing targeted functional foods, promotes the idea that all that is needed to achieve a good diet is the addition of a range of these 'techno' foods, where in fact, the systematic failure of the food industry to make eating well the easy option, together with the agricultural subsidies, and now the FDI predominantly for the agri-food production of sugar discussed previously, are the causes of the current diet related public health problems (Food Ethics Council 2005).

Figure 4.2 provides a diagrammatic representation of three aspects of individualised public health. Nutrigenomics considers the relationship between specific food nutrients and gene expression in order to facilitate the prevention of some NR-NCD's (Chadwick R 2004). Nutritional genetics (Nutrigenetics) works on the fringes of nutrigenomics, also promising personalised targeting of health intervention, however promote commercial genetic tests and sell genetically personalised dietary advice (Food Ethics Council 2005). Scientists involved in the broader field of nutrigenomics criticise nutrigenetics for premature marketing of tailor-made diets believing that to date, the evidence is insufficient (Department of Health 2003a). The issues surrounding personalisation of public health policy has been outlined in the previous section.

Nutritional genetics: private R & D

(Nutrigenetics companies)

Nutrigenomics: public and private R & D



Personalisation: public and private restructuring

- reducing health promotion to advice
- ignores both dimensions of structure and agency

Figure 4.2 Individualisation of Public Health (Dowler L 2006)

The Department of Health white paper *Our Inheritance, Our Future: Realising the Potential of Genetics in the NHS* (Department of Health 2003a) states that common diseases such as heart disease and diabetes have a genetic component, and while recognising that these are multifactorial diseases, suggest that in the future there could be the option to test for predisposition to such diseases, enabling preventative and monitoring services to be individually tailored. Genetic differences however are rarely the most important factor in dictating who gets disease. If Nutrigenomics is allowed to dominate and dictate public health nutrition policy, the burden on obesity and other NR-NCD's is likely to continue; genetics can allow us to become distracted from the wider issues such as the food system and trade (MacMillan T 2006).

Whether or not individuals would even respond to targeted dietary health interventions, tailored to their own genetic profile, is unknown, especially as it is likely to imply restrictions on, rather than a widening of, personal choice (Darnton-Hill I, Margetts B, & Deckelbaum R 2004). Would it be reasonable to assume that individuals would choose to make their purchase based on the genetic prescription they receive, when the foods they will be buying will be found in a supermarket together with many other competing choices (Chadwick R 2004)? Food choice after all is a complex issue, with diets being selected in the context of the social, economic and cultural environment in which people live (Nestle M 2002). Figure 4.3 provides an illustration; the factors influencing food choice categorised as those related to the food, to the individual making the choice and to the external economic and social environment within which the choice is made (Shepherd R 1999). Food habits are a dynamic process, undergoing constant and continuous change (Fieldhouse P 1995); the decisions can either be local - what is to be eaten now, this apple versus a packet of crisps, or global - taking into consideration issues such as animal welfare or trade policies (Chadwick R 2004); *"Food is never 'just food' and its*

significance can never be purely nutritional" (Caplan P 1997). Specifically in the context of genetics and food, we have already seen the response of the population in relation to genetically modified (GM) foods which has resulted in a call to restrict GM crops and foods in Europe. This opposition was met however by a legal challenge launched by the US, Canada and Argentina against the EU in May 2003, claiming EU measures to protect consumers and the environment from the risks posed by GM food and crops were blocking trade in GM products. While the US-led coalition failed to win many of their arguments against Europe, the WTO ruled that national GMO bans are illegal. Consequently it is likely that their will be renewed pressure to lift the bans in those countries with them currently in place (Chadwick R 2004;Friends of the Earth - Bite Back 2006). This is yet another demonstration of a bias towards big business (Shepherd R 1999). In light of the anxiety associated with food and genetics, the power of big business and the multiplicity of food choices, we need to consider whether individuals will want to, as a way of life, to take genetic tests before deciding what they should eat (Chadwick R 2004).

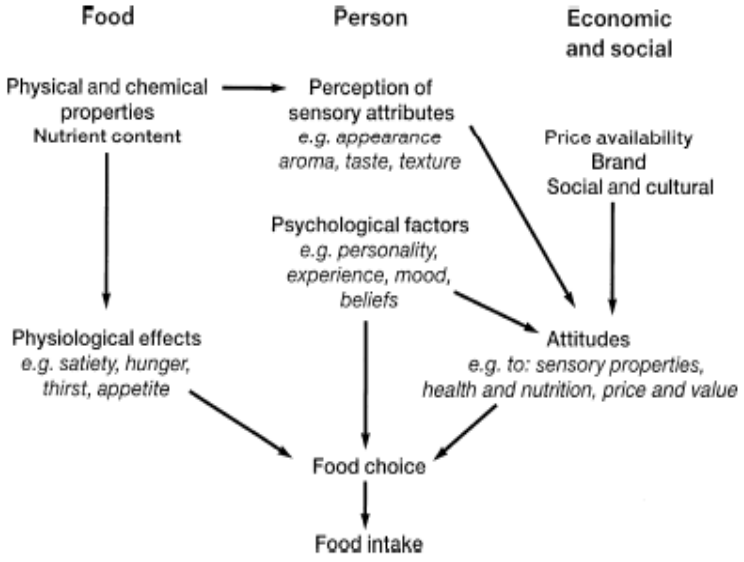


Figure 4.3 Food Choice - Why do people eat what they do? (Shepherd R 1999)

Nutrigenomics may have its place in the treatment or prevention of single gene disorders such as phenylketonuria, however the majority of the information following on from the research in Nutrigenomics is not of this type (Chadwick R 2004). Diet related diseases are complex in nature, with a multiplicity of genes involved in the key metabolic pathways (Whincup PH et al. 2002), which combine together with the effects of environmental, social and cultural factors. Genetic tests, functional foods and nutrigenomics are therefore unlikely to reduce the risk of developing NR-NCD's such as Type 2 diabetes, in no small part also due to the fact that they tend to be targeted at the wealthy segments of society, and not the poor who are the ones that suffer disproportionally from such diseases. And, unlike the rare monogenic diseases, the gene polymorphisms seen in the more common multifactorial diseases are likely to only have a modest effect at the individual level, but the high frequency seen at a population level could be associated with increased risk (Whincup PH, Gilg JA, Papacosta O, Seymour C, Miller GJ,

Alberti KGMM, & Cook DG 2002), as with the apparent increased likelihood of CVD and diabetes in Indian sub-content populations (Chadwick R 2004;Whincup PH, Gilg JA, Papacosta O, Seymour C, Miller GJ, Alberti KGMM, & Cook DG 2002). These predispositions are likely only to become apparent when such populations become overweight, as a consequence of lifestyle changes and dietary transition, resulting for example from migration and urbanisation (Darnton-Hill I, Margetts B, & Deckelbaum R 2004). If research efforts to stem the tide of the obesity epidemic and its consequences are aimed at a nutraceutical answer, then the more difficult to tackle, and most prominent causes of NR-NCD's, such as attitudes, behaviours, inequalities and an obesogenic environment, are likely to be pushed aside.

There are also considerable ethical and privacy issues to take into consideration regarding the acquisition of genetic information together with access and control (Chadwick R 2004). As well as significant resource implications, both fiscal and in terms of human resources, for example, identifying individuals at risk; undertaking screening programmes; the provision of the testing facility; potential impacts on the role of health care professionals such as pharmacists, nurses and dietitians who may have an extended role, participating in the genetic testing; and the designing of the tailored diets (Chadwick R 2004;Darnton-Hill I, Margetts B, & Deckelbaum R 2004;Department of Health 2003a). Access to such services is likely to vary from country to country. Those with more equitable systems will have a test to see what they are able to support, but for many, where the health systems are poorly resourced and poorly functioning, it may well be an impossible ambition, then for countries like the USA, it will likely remain the preserve of the affluent, those who as mentioned, are least likely to require the interventions in the first place (Darnton-Hill I, Margetts B, & Deckelbaum R 2004;Department of Health 2003a).

4.3 Potential Policy Options

Public health policy, including food policy, has the potential to have a significant role in diminishing the social and economic burden of NR-NCD's, via the reduction of overweight and obesity in both developing countries and the deprived communities in industrialised countries. For these programmes and policies which deal with preventing NR-NCD's to be effective however, they need to be based on a sound analysis of the causes or determinants of ill-heath and of the ways in which they interact. And, although evidence is required, the frameworks used in the 'evidence-based medicine' (EBM) approach, that is often expected, is inappropriate for policy development. Clinical decision making has an evidence base dominated by randomised control trials with high internal validity, whereas external validity (how it fits in the real world) is required for policy. The evidence base for obesity prevention, and other NR-NCD's, needs many different types of evidence often including the informed opinions of social, political and commercial stakeholders to ensure external validity and contextual relevance (Caraher M & Lang T 2006;Swinburn B, Gill T, & Kumanyika s 2005). There is a need to move towards the best evidence available based on the precautionary principle (Caraher M & Lang T 2006), in order that progress not be impeded. That is, lack of scientific certainty should not be used as a reason for not acting in a way that would prevent degradation to the environment or health.

In tackling the epidemic of obesity from an ecological perspective, the Epidemiological Triad (host, vector and environment) can be employed to outline the predominant strategies (Swinburn B & Egger G 2002). The Host relates to biology, behaviour and physiological adjustments; Vectors to energy dense foods and drinks, large portion sizes, energy-saving and entertainment machines; and Environments to physical, economic and socio-cultural. In this scenario, the Host strategies tend to be based around education and behaviour change which has its biggest impact on the more affluent with higher educational attainment; Vector based strategies include those to reduce portion sizes and the fat, salt and/or sugar content of common foods; and finally there are numerous potential environmental strategies to deal with the increasingly obesogenic environment that is a driving force in the obesity epidemic. These strategies can occur at a micro-environment level such as in schools and the workplace, and macro-environmental, such as the food industry.

The food policy options in the epidemiological triad can be broadly defined as supply-side interventions and demand-side options. Success will be obviously enhanced by the effective interaction of both (Haddad L 2003;World Health Organisation 2003a), taking a whole system rather than partial approach (Lang T & Rayner G 2006). Criticism has been made however that currently, there is no mass societal policy which takes a 'full spectrum' approach, and as noted previously, current public health policy tends to explore options rather than provide a comprehensive set of interventions to reduce obesity (Crombie IK, Irvine L, Elliott L, & Wallace H 2005a;Lang T & Rayner G 2006). In the following two sub-sections the main options will be outlined for supply-side and demand-side options and interventions.

4.3.1 Supply-side interventions

- *Increased investment in agriculture* to raise productivity and lower prices for fruits and vegetables.
- *Investment to explore low-fat livestock technologies*; there would be animal welfare implications for this.
- *Improved insurance for crops* to enable economically safer production of healthful, but less hardy, crops.
- *Consideration of fat, salt and sugar content could be incorporated into food safety standards*.
- *Reduce import tariffs* on fruits and vegetables into developing countries via altering current trade policies.
- *Increase the standards for the fat content of processed foods* in controlled environments such as schools, hospitals and workplace canteens.
- *Reduction of in the concentration food stores selling poor quality, calorie dense foods*, for example, fried chicken shops; burger shops and fish and chip shops.
- *Increase the availability of affordable, good quality fruit and vegetables in local areas*; (Barker DJP 2004;Caraher M & Cowburn G 2005;Haddad L 2003;Lang T & Rayner G 2006;World Health Organisation 2003a).

- *Restrictions on the advertising of high fat, sugar and/or salt foods, especially to children.* Statutory regulations or government recommendations to strengthen voluntary controls have been recognised by several countries however there is currently a patchwork of different rules (Dalmeny K, Hanna E, & Lobstein T 2003b).
- *Taxation on food advertising* (Caraher M & Cowburn G 2005). This approach has been put forward based on the fact that there is a disproportionate level of advertising associated with the fatty and sugary foods, foods often implicated in the snacking culture, which is associated with the increase in obesity and NR-NCD's (Caraher M & Cowburn G 2005;Cutler D, Glaeser E, & Shapiro J 2003;Leicester A & Windmeijer F 2004;Marshall T 2000).
- *Taxes on production and manufacturing.* There is currently an unhealthy food system, with subsidies being provided for fat and sugar (as discussed previously). If we are to look at the whole food chain, from the farm through to the production and distribution, taxation on production and manufacturing may be a more systematic and sustainable approach than taxation on advertising (Caraher M & Cowburn G 2005). There is always the chance however that any taxes applied on production and manufacturing will simply be passed back onto the consumer (Caraher M & Cowburn G 2005).
- *Combating the high rates of poor maternal and foetal nutrition* seen in many developing countries which can predispose the population to obesity in the future – as per the Barker hypothesis.
- *Regulation of health claims.* Until recently, health claims in the UK were subject to only a voluntary code of practice, under the Joint Health Claims Initiative (JHCI) (World Health Organisation 2003c). This initiative worked to ensure any claims were scientifically true when applied to food; legally acceptable under the current UK food law, and meaningful and not confusing to consumers, however they did not have the power to enforce decisions. The European Commission however has now developed a regulatory framework: Regulation (EC) No 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods. Under this Act:

Nutrition and health claims which encourage consumers to purchase a product, but are false, misleading or not scientifically proven are prohibited. The aim is to improve protection of consumers' health and rights. European legislation has created a list of nutrition and health claims and the conditions for their authorisation which applies throughout the European Union (EU). (Europa. 2008)

Significant amounts of financial and structural investments would be required for these supply-side interventions, and evaluation of success, effectiveness and unintended effects would be essential (World Health Organisation 2003a). It is likely that there will also be some opposition to interventions that may have an effect on manufacturing and production practices or trade policies (Schmidthuber J 2005).

4.3.2 *Demand-side options*

- *Change the relative prices of healthy and unhealthy foods*, as pricing and cost may be one of the key elements in the prevention of NR-NCD's (Haddad L 2003;World Health Organisation 2003a;World Health Organisation & Food and Agricultural Organisation 2003). A policy analysis of food taxes (Caraher M & Cowburn G 2005;Haddad L 2003;Lang T & Rayner G 2003) found that there are four main ways of imposing tax on food: raising general revenue; extending VAT's to certain foods and hypothecated to fund prevention initiatives; imposing taxes directly on specified food products, to impact on behaviour, and some or all of the revenue going towards funding prevention programmes; and, imposing taxes directly on specified food items but without the revenues going towards targeted heath programmes.

  There are a number of considerations to take into account however with the taxing of food. Firstly, adding a tax to high fat, salt and/or sugar food choices, particularly as a direct tax, is likely to be politically undesirable. Many, often the food industry and political conservatives, would see this as an imposition of the 'nanny' state on freedom of choice (Caraher M & Cowburn G 2005). Secondly, there are potentially negative effects on poorer socio-economic groups. A couple of examples may be seen with a tax on processed meat and ready meals. Adding a tax to processed meat may reduce the saturated fat intake of the wealthy however low-income populations may find it restricts access to a good source of protein and micronutrients such as iron. Adding a tax to foods such as ready meals may reduce the intake of fat and salt however may negatively affect vulnerable members of the population such as those with poor cooking facilities due to inadequate housing; those who have difficulty with meal preparation such as the elderly or physically impaired; those with poor cooking skills. Additional services would therefore need to be in place for these types of options to be viable. Furthermore, food choices can be linked with affluence, status or being part of a particular community. If specified food items were targeted to be taxed, a two tier society may develop. In stating this though, it should be recognised that this is already the case as in the current system the poorer members of society are often not able to afford nutritionally adequate diets and foods such as organic or fair trade are often beyond the price capacity of all but a small segment of the community. Taxes on specified categories of food may be more effective if restricted to micro-environments such as canteens and vending machines in schools, workplaces and hospitals. (Barker DJP 2004;Caraher M & Cowburn G 2005;Caraher M & Lang T 2006;Dalmeny K, Hanna E, & Lobstein T 2003b;Hastings G, Stead M, McDermott L, Forsyth A, MacKintosh A, Rayner M, Godfrey C, Caraher M, & Angus K 2003;Leicester A & Windmeijer F 2004). Food taxation is seen however as a blunt instrument, in that it has its greatest impact on the poor and is thus seen to have a regressive impact. A greater proportion of their income is spent on food than people who are more affluent, thus they are more likely to be sensitive to price changes (Marshall T 2000).
- *Making individuals who do not follow the dietary recommendations bear a higher part of the consequent costs borne by the public health systems*, as it is these habits that are prone to

associated NR-NCD's (Alexandratos N 2006;Schmidthuber J 2005). This is colloquially referred to as a tax on 'fat people'. A paper funded by the FAO sees this as a more effective and efficient method than a tax on food with the following advantages: no negative side-effects on food markets; compatibility with other policy measures (not undermining global free-trade policies); and no penalty for consumers who may require a higher caloric intake. The main drawbacks are seen as: the implementation difficulties, and the fact that a lower body weight does not guarantee a healthier diet (Schmidthuber J 2005). The author also acknowledged that companion policies such as food labelling and education would be required as well as in light of the growing evidence for phenotypic or genotypic predisposition, then the 'polluter pays' principle would be grossly unfair policy measure. This is a controversial and extreme proposal which places the responsibility on those who are often the most vulnerable members of society, resulting in a culture of blaming the victim. As such, this is likely to be a highly regressive approach.

- *Food labelling* to provide clear, unambiguous information to help make product choices. The FSA has introduced traffic light labelling and while a number of retailers and manufacturers are using the system, this remains voluntary. Consequently a number of food manufacturers are also choosing to use their own labelling system, an alternative based on the percentage in each food of someone's Guideline Daily Amount (GDA) of a nutrient. In May 2009, the FSA published the results of independent research (BMRB Social Research 2009) on front of pack nutritional labelling. The research confirmed the coexistence of a range of Front of Pack (FOP) label formats in the marketplace causes difficulties for shoppers, and found that the strongest FOP labels are those which combine text (high, medium, low), traffic light colours and %GDA information. These findings however do not require the food industry to make changes to their own labelling systems.
- *School based interventions* to improve diet and activity such as has been done in Singapore where nutrition education is integrated into the formal school curriculum (World Health Organisation 2006a). In England, School Foods Regulation received Ministerial approval in 2008. The standards are set by the Department for Children, Schools and Families (DCSF). The School Food Trust (SFT) is an independent body established in 2005 by the Department for Education and Skills has as its remit to transform school food and food skills, promote the education and health of children and young people and improve the quality of food in schools. The Trust is charged with taking forward the nutrient based standards and Ofsted is monitoring the way schools approach healthier eating as part of its regular inspections of schools. Additionally, the Healthy Schools (HS) Programme is a joint Department of Health (DH) and DCSF initiative. To achieve HS status schools must meet the new standards, and have a whole school approach to healthy eating, covering all aspects of eating and learning about food, as well as the meals themselves.
- *Teaching and maintenance of traditional cooking methods.* In Korea for example, work has been done to retain elements of the traditional diet. Initiatives by Civil society and government led mass media campaigns to promote local foods, traditional cooking methods and the need to support local farmers. (Kim S, Moon S, & Popkin B 2001;World Health Organisation 2006b)

- *Publishing national dietary guidelines.* China is tackling nutrition and public health issues in terms of the food supply chain. Chinese national dietary guidelines have been developed to address future food production and marketing with respect to its significant for nutritional well-being, focusing on eliminating both undernutrition and dietary excess and obesity (Kim S, Moon S, & Popkin B 2000;Kim S, Moon S, & Popkin B 2001)
- *Mass media campaigns and health promotion to reduce overweight and obesity*. In Mauritius, the Ministry of Health launched a nationwide comprehensive health promotion programme, focused on the prevention of coronary heart disease that used price policy, other legislative and fiscal measures, and widespread education activities in the community, workplace, schools, and the media. The results were impressive for the reduction of alcohol intake, cigarette smoking, a reduction in serum cholesterol and hypertension, and an increase in physical activity but had little effect on obesity and levels of impaired glucose tolerance (Monteiro CA, Popkin BM, & Coitinho D 2002;Uusitalo U et al. 1996;World Bank 1999). The Brazilian government has used mass media campaigns together with legislative and regulatory actions, and capacity building to develop a comprehensive approach to addressing the poor diet and activity patterns that are leading to the rise in obesity and other NR-NCD's (Mercer SL et al. 2003). In the UK, the Change4Life[25] social marketing campaign is a society-wide movement that aims to prevent people from becoming overweight by encouraging them to eat better and move more. It is the marketing component of the Government's response to the rise in obesity.

To date however little is known about the effectiveness of such interventions therefore evaluation of the programmes would need to be included as part of the design process and carried out, feeding back into policy development in a timely fashion. Unfortunately, many programmes that are implemented have little or no evaluation built in from the outset, evaluation having a tendency to be an after-thought.

4.3.3 The uniqueness of food

There has been temptation amongst those in the public health and policy community to attempt to reduce the burden of NR-NCD's by employing the strategies used to reduce smoking (World Bank 1999), for while unlike tobacco, food and physical activity are essential to life, there are similar psychological, social, and environmental factors, including the pressures of advertising which impact on all three (Kersh R & Morone J 2002), and furthermore, the international market for both drives the threat to public health with a focus on the vulnerable . There are however some main differences between strategies to effect diets and those to cause smoking cessation. Firstly, unlike smoking, it is difficult to isolate which foods in particular need to be regulated; secondly, on the demand side, it is difficult to influence preferences via the public sector when the food industry has such an extraordinary advertising budget and on the supply side, discouraging certain foods to be produced could have a negative economic impact on the rural economy; thirdly, there are less obvious private externalities as there is with smoking and

[25] http://www.nhs.uk/change4life/Pages/Partners.aspx
http://www.dh.gov.uk/en/MediaCentre/Currentcampaigns/Change4Life/DH_092080

passive smoking, an exception may be intrauterine nutrition; and finally, food farmers have a broader constituency than do tobacco farmers (World Health Organisation 2003a). As such, the triggers for strong public action, as was seen with smoking, are not yet in place. Table 4.1, summarises the 'triggers' for successful government regulation of private behaviour, assessing their strength as applied to the US obesity problem. According to the original authors (Kersh R & Morone J 2002), only the first three of the seven have been tipped although in the UK, trigger 6 may be said to be 'underway' with the Change4Life social marketing campaign claiming to be creasing a mass social movement.

Trigger	Comments	Power of obesity triggers in United States
1. Social disapproval	Recognition by society as a "bad thing"	There is popular disapproval of obesity
2. Medical science	Role is to challenge myths	There is strong evidence linking diet to obesity and obesity to chronic diseases
3.Self-help	Alcoholics Anonymous	Overeaters Anonymous, Weight Watchers
4. Demonize user	Feared dug-crazed	Obesity does not play on fears. No evidence of trigger yet.
5. Demonize provider	Big Tobacco	No "Big Chocolate" yet. "Fast Food Nation" gaining consciousness. No evidence of trigger yet.
6. Mass movement	Protests, rallies	No evidence of anti-obesity campaigns (possibly opposite, regarding accepting body image). No trigger yet.
7. Interest group action	Lawyers and lobbyists	Yet to be achieved. No trigger yet.

Table 4.1 **'Triggers' for Successful Government Regulation of Private Behaviour** (Kersh R & Morone J 2002;World Health Organisation 2003a)

4.4 Summary

Obesity and the related NCD's have considerable human costs in terms of mortality and morbidity, together with increasing economic costs resulting from lower productivity and pressure on health systems. These chronic diseases have been driven by rapidly changing diet and lifestyles, the nutrition transition, which is a consequence of improving incomes; increased availability of nutrient dense foods; changes in the food technology and distribution; increased mechanisation; and migration, both within an between countries, from rural to urban areas. For certain populations there are also a legacy of low birthweight and poor foetal and maternal nutrition from previous generations, increasing the vulnerability of these groups when they move to an obesogenic environment. In order to tackle this growing issue, public investment needs to be directed towards the causes such as the current food production system, the obesogenic environment in which we live, and the social inequalities.

There are a number of policy options on both the supply and demand side that need to be investigated and, programmes implemented and evaluated. It is acknowledged that any attempts of food policy will be complicated, considering both the commercial and human cost implications, however lack of 'scientific' certainty should not prevent progress, but rather there is a need to make changes based on the precautionary principle. The individualised approach to public health that is currently being undertaken assumes that individuals have the capacity to act on the advice being given when in fact their choices are a natural response to an unnatural environment. This approach targets the particularly vulnerable, such and the Bangladeshi community, who are the ones, hit the hardest by NR-NCD's.

The role of nutraceuticals in public health remains unclear, and while there may be some benefits, they will mostly be attained by the 'healthy wealthy' and the 'worried well' while at the same time distracting from the wider issues such as the food system and trade. Many policy makers and professionals, including nutrition professionals, are taking a reductionist approach by viewing targeted measures as imperative to behaviour change and altering eating habits to deliver improved public health. We need however to avoid the medicalisation of what is essentially a social problem, and while recognising the role of individual responsibility in the choices that are made, an individualised approach will be ineffective if not undertaken at the same time as implementing macro-level environmental changes.

Government, as an advocate of the population, needs to take a stronger stance, if necessary imposing regulation, if public health is to get the support it requires. We cannot expect commercial companies to take responsibly for public health when they are primarily accountable to their shareholders ahead of consumers.

Section B: Research methodology and findings

Chapter 5 Research methodology

5.0 Introduction

The first four chapters have set out the academic and policy context in which this thesis is set. The specific aims and research questions that reflect the research needs are set out in this chapter, section 5.6, whilst the bulk of this chapter will now explain the methodology and research methods used, over three phases, in order to explore these needs together with the methodological considerations for undertaking trans-cultural qualitative research in the community. The research is based in the borough of Tower Hamlets, East London, focused in the community.

5.1 Overview and epistemology

The systemized review of literature (see section 5.2 for process details) in chapter two provided a background to the Bangladeshi population to the UK, including their customs and beliefs, especially as they relate health and diet, together with a description of the increasing prevalence of obesity and other nutrition-related non-communicable diseases (NR-NCD's) such as Type 2 diabetes, which are becoming a major public health problem in both developed and developing economies globally. In chapter three we have seen that Type 2 diabetes is a consequence of etiological factors that can initiate a disease process together with mechanistic components that may account for the higher prevalence in some populations. In particular, populations who have seen rapid changes in lifestyle and dietary patterns - the nutrition transition - as a result of urbanization and migration, together with those from poorer socio-economic groups, are currently carrying an increased burden of chronic disease.
At the onset of this research a reductionist, individual approach was considered in order to develop and evaluate a package of instruments to assess factors affecting food choices and determine eating patterns, in British Bangladeshis. To a degree this was influenced by my background in biochemical nutrition where the science of diet is expressed as a medical regimen to be followed, often with few links to the culture of food and eating, or to the wider political or economic structures of food production and marketing. Consequently, the original methodology planned to use qualitative approaches but only to inform the development of quantitative food choice and dietary assessment instruments, following which structured interviews were to be conducted with participants to test the items on the newly developed instruments. Through interviews with lay members of the Bangladeshi community, community leaders and academics however, together with the systemised review of the literature, it was realised that this was an epistemological issue. It is not possible to understand the development of obesity and Type 2 diabetes in Bangladeshis as purely clinical diseases, but rather it is necessary to look at sociological considerations for solutions. The core tension is

whether the development of obesity and Type 2 diabetes in this community in the East End of London can be explained clinically, socially or both.

In terms of this thesis therefore, a psychosocial environment approach (Lynch JW, Davey Smith G, Kaplan GA, & House JS 2000b;Wilkinson R G 1996) was taken in order to investigate factors influencing food choices, and the trend in eating patterns of the Bangladeshi community from their own point of view, while at the same time triangulating the data collection by considering the broader societal issues of the material structural causes (Lynch JW, Davey Smith G, Kaplan GA, & House JS 2000b;Pearce N & Davey Smith G 2003) of health inequalities. This approach was best suited to the particular circumstance in question, while recognising that public health policies require a societal agenda. Losing sight of the impact of the material or psychosocial impacts would result in simply following the reductionist individual approach that can lead to 'blaming the victim'. There was a deliberate effort to avoid the biologically reductionist view of nutrition, rather pursing an understanding of nutrition as it is located within social processes, and the physical environment.

5.2 Systemised review

A systemised review of existing literature was undertaken, including grey literature (material which might not be formally published) (Hart C 1998;Hart C 2001). See figure 5.1 for a summary of sources used for the systemised review.

The initial scoping for the search was undertaken by firstly dividing the literature into a series of subjects related to the area of interest, developed in conjunction with PhD supervisors and then reading broadly across key work in the subject areas to familiarise myself with the literature. These subjects related to immigration history; cultural pathways such as the clash between Bangladesh and East End in London, UK; the interrelated dimensions of nutrition science, food politics and policy; the debate regarding burgeoning epidemic of type 2 diabetes; key work on poverty and families and key theories that have moved to food as a topic of interest.

Specific examples include:

- Immigration history starting with 'the Polish peasant in Europe and America', William Thomas and Eli Zaretsky.
- Sociology on the Menu, Alan Beardsworth and Teresa Keil
- The nation's diet: the social science of food choice, Anne Murcott
- The history of nutrition and what it has become: public health nutrition, biochemical versus social nutrition e.g. Fieldhouse, Mike Nelson
- Food politics: Marion Nestle
- Nutritional methods: Jameson & John Garrow
- Food wars: Tim Lang and Michael Heasman
- The nutrition transition; Barry Popkin

Key theories:

- *Empiricist* – Charles Booth and Seebohm Rowntree – UK

- *Hunger as a factor of human affairs* – Pitirim Sorokin
- *Theory of the leisure class* – 1899 Thorstein Veblen
- *Taboo's* – Herbert Spencer & Emile Durkheim
- *Structuralist* – 1960's/70's – Claude Levi-Strauss and Mary Douglas
- 1980's – turning away from structuralist theories: Marvin Harris "good to eat"; Sidney Mintz "sweetness and power"

Following this initial reading of key works the search strategy then began to be refined to enable more a more detailed literature search on each of the following concepts areas separately before then combining the concepts where relevant using boolean logic. The main search areas are summarised as follows.

Sociological / demographic / culture

- Push and pull factors of migration e.g. heritage and tradition as anchors; new lifestyles/foodways as pulls
- Bangladesh e.g. food insecurity and feeding programmes
- Cultures in transition
- London East End; social history of Bangladeshis in the East End
- Food culture
- Migration and dietary changes; changing food ways; meal patterns; cooking habits; generational transfer
- Lay health beliefs

Disease patterns

- General on diabetes: global epidemic
- Explanations and tensions for diabetes between: environmental, cultural, genetic, drug approach, anthropological, life sciences
- Impact of urbanisation on obesity and diabetes
- Changing social, political and medical geographies of Britain; social and spatial inequalities to life chances
- Models of causation e.g. Black Report; Whitehall study
- Ethnicity versus social class approaches to health inequalities
- Diabetes and ethnicity
- Diabetes and inequalities
- Medical sociology / anthropology; the case for social not just medical research
- Sociology of health and illness
- Sociology of diabetes

Policy relevance

- Medical model of public health
- Social model of public health
- Ecological model of public health
- Obesity and the three traditions of public health

- Personalisation of public health
- 'Victim blaming'
- Nutrigenomics
- Role of the state
- Role of the corporations.
- Economic costs / burden of disease
- Possible approaches and interventions

As the study developed, further specific concepts were also incorporated to widen and update the literature review.

As the research topic was refined the literature review also turned to the most appropriate methodology to answer the primary research question, together with that relating to the duty and role of the researcher in trans-cultural research. Review of the literature was undertaken relating to qualitative research and the methodological issues surrounding trans-cultural research; see section 5.5.1 for further details. Discussion was also undertaken with key academics regarding methods used for previous research in the subject area; types of analysis used and how the methodology may be used in this research. As some of the transcripts were to be translated from Sylheti or Bengali advice was taken from the language and communication department regarding issues that may arise.

Electronic databases relevant to the study were accessed through the internet gateway ATHENS at City University and via KA24[26] e.g Cinahl, British Nursing Index and the Cochrane library. Papers included have been obtained from medical, public health, nutrition, policy, sociological and psychological literature sources. Reports/policy documents were obtained from governmental and non-governmental organisations such as the Public Health Deartment in NHS Tower Hamlets, the Department of Health, World Health Organisation and International Food Policy Research Institute. Grey literature was accessed through personal communications; university websites; conference abstracts; the NHS Centre for Reviews and Dissemination; thesis; news media; and internet searches with search engines Google and Google Scholar.

Key journals were hand and reference list checked and citations checked to ensure a comprehensive search. Citations were also checked for all relevant articles obtained. A manual review of topic shelves was undertaken at City University for selected topics such as racism in health research. Abstracts were reviewed for all relevant articles and those deemed not relevant were disregarded. Papers were obtained for the remainder. For those that were not freely available to download, copies were ordered from the British Library or relevant organisation. The NHS, Public Health Resource Unit, Critical Appraisal Skills Programme (CASP)(Public Health Resource Unit 2006) critical appraisal tools were used as a guide for the appraisals.

[26] KA24 offers health and social care staff in the South East access to healthcare resources 24/7

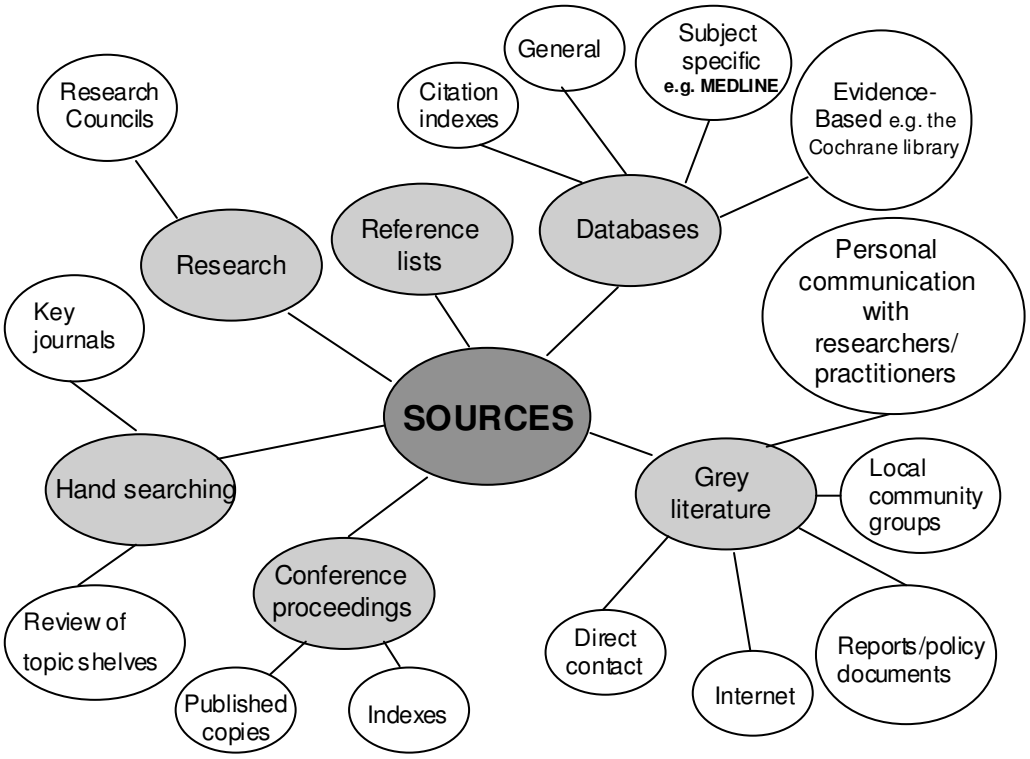


Figure 5.1 Summary of sources used for the systemised review.

5.3 Research approach

The medical and health care community, including Dietitians, have traditionally taken a quantitative approach to research (Fade S 2003), such as randomised controlled trials, but while this may be appropriate as a means of testing the effect of an intervention or treatment, central to this thesis is the fact that some circumstances require qualitative exploration of beliefs and understandings (Jones R 1995). Qualitative research methods describe the process of people's lives from the point of view of the participant, thereby contributing to a better understanding of the social realities (Flick U, von Kardorff E, & Steinke I 2004;Pope C & Mays N 1995). It addresses the 'what', 'how', and 'why' questions : what is happening?; how does it happen?; (Pope C & Mays N 1995) why does it happen? So while a quantitative approach could be used to assess dietary intake, for example the actual amount of fat, sugar and salt in the diet, it will not enable the reasons behind *why* the dietary choices were made, exploring them in a wider social context. Table 5.1 provides a brief summary of the characteristics of qualitative methodology.

Predominantly emphasises an inductive approach to the relationship between theory and research, in which the emphasis is placed on the generation of theories
Emphasis on the ways in which individuals interpret their social world
Embodies a view of social reality as a constantly shifting emergent property of individual's creation

Table 5.1 Characteristics of Qualitative Methodology (Denzin NK & Lincoln YS 2000)

The qualitative research methods, that have a long history in the social sciences, should be an essential component in health and health services research if some of the most important questions are to be answered, and particularly in areas where there has been little previous investigation (Pope C & Mays N 1995). A qualitative approach has been taken for this research as an interpretive, naturalistic (non-experimental) approach is best suited to the subject. By undertaking the research with the participants in their natural settings, the study attempts to make sense of and interpret, the influences on the food choices people make, in a way that reflects the meanings that the participants bring to them, rather than from the point of view of the researcher (Denzin NK & Lincoln YS 2000).

5.4 Ethics approval

NHS ethics approval was required for this study in conjunction with that from the Senate Research Ethics Committee at City University. This extra step was necessary as the chief investigator had a PhD research fellowship through the Barts and The London NHS Trust, Special Trustees of Barts and the Royal London hospitals. While the study only included "healthy volunteers", NHS ethics approval was highly recommended, as the Bangladeshi community is considered to be a vulnerable group. An official application form together with all research documentation was required, such as the explanatory statements, consent forms, and interview schedules.

The application was received on the 22nd August 2005, reviewed by the Ethics Committee at the meeting on the 15th September 2005. Final approval was received on the 20th October 2005 from the East London and the City Research Ethics Committee 3[27], following minor amendments to the original application being made as requested (REC Ref: 05/Q0605/152). A copy of the ethical approval letter and all relevant documentation was then forwarded to the Senate Research Ethics Committee at City University. Ethics approval was then also received from City University on the 1st November 2005. See appendices 1-4 for copies of letters to the committee.

5.4.1 Amendments to research approach

[27] REC reference number: 05/Q0605/152

Following the phase 1 paired interviews which piloted the interview schedule, as outlined in section 5.6.1.5, modifications were made to the interview schedule and consent forms. As this was advised in the original ethics submission a notice for substantial amendment to the ethics committee was not necessary.

Further changes were then made prior to commencing the key informant interviews, upon further discussion with the Chief investigators academic supervisors, when it was decided to expand the key informants to include those a specific policy focus to their role in obesity / diabetes at a regional or national level rather than only those working in Tower Hamlets with members of the Bangladeshi population. In light of the changes a notice for substantial amendment was submitted to the East London and the City Committee 3 (ELC3), on the 10th January 2007, being reviewed a couple of weeks later at the meeting of Sub-Committee of the REC held on the 18th January 2007. A favourable outcome was received.

5.5 Research Design

The research utilises qualitative approaches over three phases. The first phase of the research involved the development of the interview topic guide as outlined in section 5.6.1.5 followed by paired interviews to pilot the utility of the topic guide and the interview process. Phase two, section 5.6.1.6 formed the body of the research consisting of one-to-one in-depth interviews with both community participants and key informants. In the final phase of the research, section 5.6.7, a subgroup of the community participants were invited to participate in multiple pass dietary recall (MPR) to triangulate the information obtained from the in-depth interviews. Table 5.2 summarises the three phases of the research; the timeline responds to the time taken to recruit and complete the interviews and transcription but not the analysis which was an ongoing process across the three phases of the research. The combination of one-to-one semi-structured interviews and the MPR, layered on top of existing literature, will help to establish the differences in eating patterns and behaviours within this community. Triangulation of data collection methods (using different methods to measure the same phenomena) and analysis will be used to enhance the rigour of the study.

Phase 1	Development of interview topic guide Paired interview to pilot the utility of the topic guide and interview process	Months 6-8 Months 12-14
Phase 2	One-to-one semi-structured interviews: community participants One-to-one semi-structured interviews: key informants	Months 15-30 Months 26- 32
Phase 3	Multiple pass dietary recall	Month 29-31

Table 5.2 Summary of the data collection methods utilised

Initial scoping and formative evaluation assisted in informing the methods chosen for the study. Meetings were conducted with lay members of the Bangladeshi community in Tower Hamlets

together with the director and health guides[28] from a local community organisation - Social Action for Health (SAfH)[29]. At these meetings the background to the study and proposed methods were discussed. Advice taken from these meeting was then used in the development of the final methodology for the study. Discussions have also been undertaken with various academics, as appropriate, to discuss specific topic areas. Further to these meetings, a research advisory group (RAG) has been set up in order to provide peer review of project as it progresses, and expert advice and ideas. The group consists of a lay member of the Bangladeshi community in Tower Hamlets, academic supervisors, NHS supervisor, Professor of Social Research Methodology and a community dietitian. The combinations of these meetings have been helpful to date in discussing the appropriateness of the methods chosen, in providing advice regarding language and cultural aspects of the study, and to generate ideas for potential areas of investigation.

All semi-structured interviews in the study have been tape-recorded with participants' consent and transcribed, being translated into English during the transcription process for those interviews completed in either Sylheti or Bengali. The facilitators were responsible for transcribing their own interview data. Section 5.5.2 provides detail on the facilitation and translation process in transcultural research.

5.5.1 Trans-cultural research

A combination of migration patterns, the globalization of markets, and increased cross-cultural communications have made cross-cultural and trans-cultural research a necessity (Census 2001 2004), together with the growing requirement to provide culturally competent and relevant information. The collection of qualitative cross-cultural (trans-cultural) data does however provide unique logistic and analytic challenges (Hsin-Chun Tsai J et al. 2004). In 2001, 4.9 million (8.3 per cent) of the total population of the UK were born overseas (National Statistics 2001) and these migrants do not necessarily speak English as a first language. The majority of the Bangladeshi migrants to the UK for example have poor English, being particularly so where there is a high group density, for example fluency rates for English amongst Bangladeshis is 70% when they comprise less than 2% of the community, where the populations density is 33% and over however, as in Tower Hamlets, the fluency drops to 37% (Ali J 2000;National Statistics 2001). Even when the researchers and the study participants have the same ethnic background and speak the same language as the participants issues may arise due to being culturally different as a result of differing socioeconomic status and immigration history (Hsin-Chun Tsai J, Choe JH, Mu Chen Lim J, Acorda E, Chan NL, Taylor VM, & Tu S-P 2004). Due to the multinational and cultural differences it can be therefore quite a challenge for researchers to have a linguistically and culturally competent team; consequently some ethnic groups may be understudied as researchers rely on English.

[28] The Health Guides work in pairs to deliver sessions out in community settings (community centres, schools, mosques, clubs) to groups of people from their own communities at different times of the day, evenings or weekends as appropriate. The aim is to facilitate own-language access for excluded people on information and guidance about health services and health issues; to promote understanding and awareness of self care and self management.
[29] SAfH, who have committed to assisting with the project, are a registered charity based in Tower Hamlets, aiming to reduce health inequalities and increase the participation of people in East London in their own health improvement.

The Bangladeshi community in the UK is unique in the fact that the majority - 95% - come from a network of villages and rural localities in the Sylhet District of north eastern Bangladesh and in respect of social origins were mainly drawn from peasant farming families (Eade J 1989;Home Affairs Committee 1986;Lawson S & Sachdev I 2004;Phillipson C, Ahmed N, & Latimer J 2003). For this study therefore, significant efforts have been made to address these issues, and ensure a competent research team, via the inclusion of lay members of the Bangladeshi community throughout the research process, together with using facilitators who are trained in qualitative research methods as well as being ethnically Bangladeshi and from the Sylhet district. By the facilitators being linguistically competent in Sylheti, Bengali and English, as well as coming from the same place of origin, it will minimize differences that can be found in the way the language is used. As discussed previously advice was taken regarding the methodology from lay community members, community workers and academics.

The relationship between interviewer and interviewee in cross/trans-cultural research throws up further issues in the collection of data. The first issue relates to racism and Whiteness. That is, the' White researcher' and the 'Black researched' and how this racialised power relationship effects data generation (Hsin-Chun Tsai J, Choe JH, Mu Chen Lim J, Acorda E, Chan NL, Taylor VM, & Tu S-P 2004). In a paper by an antiracism scholar, on research carried out in East London on South Asian women, it was argued for example that our racial identity *can* and *does* affect the research process in that if the participants have some shared experience with researchers they may be more willing to speak to researchers who reflect this (Bhopal K 2001). Secondly, differences in gender, social, cultural and personal backgrounds can all have an impact on the power relationship of the interview (Tang N 2002;Temple B & Edwards R 2002). Feminist researcher Ann Oakley states that in the majority of cases we are best able to find out about people in an interview situation if the relationship is non-hierarchical such as women interviewing women because of women's general experience of gender subordination (Twinn S 1997). Social attributes such as race and class are also important as noted in interviews with between a middle-class white interviewer and working class interviewee where is was found that the lack of shared experience created barriers to understanding (Tang N 2002). These issues were taken into consideration when deciding whether or not the chief investigator should undertake the interviews with those Bangladeshi participants who were able to speak English; it was judged, that this would introduce significant, unnecessary, bias into the study due to the chief investigator being a white, middle-class Australian. There was also the potential to increase the inconsistencies between interviews due to the greater number of interviewers being involved, and thus reducing reliability in analysis of the data obtained (Twinn S 1997).

Data analysis in cross-cultural / trans-cultural research further emphasises advantages and disadvantages of having 'insiders' (members of the studied ethnic group) as coders versus outsiders. 'Insiders' as coders for example are likely to be more familiar with health beliefs and subtle cultural meaning embedded in a verbatim account of the interview (Hsin-Chun Tsai J, Choe JH, Mu Chen Lim J, Acorda E, Chan NL, Taylor VM, & Tu S-P 2004). The advantage of not being an insider in the data analysis process however is that there may be behaviours and

concepts that are unique but only recognised by those from other cultural groups (Hsin-Chun Tsai J, Choe JH, Mu Chen Lim J, Acorda E, Chan NL, Taylor VM, & Tu S-P 2004). Also for insiders, acquaintance with the subject matter may affect the way the phenomena is seen, thus there is a danger of subjectively distorting the data (Hsin-Chun Tsai J, Choe JH, Mu Chen Lim J, Acorda E, Chan NL, Taylor VM, & Tu S-P 2004), plus they may report findings that reflect their own versus the research participants experiences (Hsin-Chun Tsai J, Choe JH, Mu Chen Lim J, Acorda E, Chan NL, Taylor VM, & Tu S-P 2004). At this stage more methodological studies are required in order to explore approaches and determine the ideal composition of the team but what is known is that it is important to include members of the target population within the team, including qualified members when possible to enhance the accuracy, trustworthiness and/or validity of cross-cultural (trans-cultural) research (Hsin-Chun Tsai J, Choe JH, Mu Chen Lim J, Acorda E, Chan NL, Taylor VM, & Tu S-P 2004). To help overcome not having an 'insider' involved in the coding and analysis of the interview transcripts in this study the facilitators maintained field notes for each interview. The chief investigator also had discussions with the facilitator following each set of four interviews (participants being stratified for gender and generation), throughout the course of the data collection, to discuss emerging themes and future directions.

5.5.2 Facilitation and translation

Facilitators from Nania Ilm Studio plc[30] (Nania) were employed to facilitate the paired interviews to pilot interview topic guide, the 1:1 in-depth interviews with community participants and 1:1 in-depth interviews with Bangladeshi Imams who were part of the key informant interviews, and multiple pass dietary recall with a sub-sample of the community participants. It was necessary to employ facilitators as many of the interviews were conducted in Sylheti or Bengali, as preferred by the participants. The facilitators had both the linguistic abilities and are trained researchers which will enhance the validity of the research (Esposito N 2001;Kapborg I & Bertero C 2002). Use of professional interpreters with research training is recommended to avoid any distortions in the quality of the information obtained (Esposito N 2001;Kapborg I & Bertero C 2002). Nania Ilm Studio plc was chosen following a recommendation from the advocacy service for Tower Hamlets PCT, who themselves had used the research centre for large scale projects. The facilitators therefore had experience working in this community on previous occasions. Validity was further strengthened by the facilitators being part of the same cultural arena as the participants (Kapborg I & Bertero C 2002), that is, they were Bangladeshis, from the Sylhet region as were the community participants. Consideration was given to the Chief investigator undertaking those interviews with Bangladeshi participants where English may be used, however the validity of the research would likely have been be compromised if, as noted previously, a white, middle-class Australian, undertook a segment interviews only, due to differences in personal cultural perspective (Kapborg I & Bertero C 2002). Guidance was provided to the facilitators to maintain consistency in interviews and to ensure they understood the aims of the research. As the community participants were Muslim, a male and a female

[30] Nania facilitators are experienced in qualitative research and analysis, and specialise in working with ethnic minority groups.

facilitator was employed to ensure the cultural and religious norms of the community are followed. It was planned to have the same facilitators undertake the interviews for the duration of the study in order to maximise the reliability of the study (Twinn S 1997) and this proved to be possible. Due to unforeseen circumstances[31] however, contact was lost with the female facilitator for approximately the last eight months of the data collection phase of the project; impacting on phases 2 and 3. Despite the difficulties however the facilitator upheld her contract and completed the planned work although the interviews were undertaken more sporadically than scheduled and the translation and transcription of the interviews was significantly delayed.

5.5.3 Validation of transcripts

The facilitators were responsible for translating and transcribing the interview data they collected, in all phases of the data collection, in order to increase the reliability of the process, and during the pilot phase of the research, the facilitators also sent the recorded interview transcripts, together with their verbatim transcription for checking to the interview observers. These were found to be as recalled and recorded. This process was not undertaken for the remaining interviews due to a combination of time constraints and the prohibitive expense.

5.5.4 Written information

Methodological issues around validity and reliability for cross-cultural (trans-cultural) research were taken into account in the development of the topic guide and any written information to be provided to the research participants, and data collection. Literature was provided to the Bangladeshi research participants in both English and Bengali. It should be noted that Sylheti is a spoken language only. The topic guide was piloted to remove any jargon, colloquial phrases or ambiguity with terminology, as well as ensuring that the questioning is culturally sensitive and appropriate. All translated literature provided to research participants was back translated (Twinn S 1997) by the research facilitators from Nania. Back translation involves translating the information from the source language (English) to the target language (Bengali), then having a second interpreter translating the literature back to the source language (McDermott M, Palchanes K 1994). Differences or contradictions between the data sources was examined and explanations sought (McDermott M, Palchanes K 1994). Together with meetings to discuss the purpose of the study a written guide for note taking and transcription of interviews was provided to the facilitators to further help increase consistency.

Information was provided to the participants in both English and Bengali; Sylheti has no written form. This was recommended by the Director of Social Action for Health and the 'lay' Bangladeshi advisor. If the participants were unable to read the Bengali, it is common that somebody in their family would have been able to read either Bengali or English (often the latter if they had children being educated in the UK).

[31] Personal issues for the female facilitator

As the paired interviews with the community participants during this pilot phase of the research were successful and resulted in only minor amendments as outlined above, the information received was treated in the same way and subject to the same analysis as that from the one-to-one in-depth interviews with the community participants. The results for these paired interviews were therefore presented in conjunction with the in-depth interviews in chapter 6; research findings from the community interviews.

5.6 Methods of Data Collection – research aims and questions

As outlined in chapter 1, section 1.2, there were three principle research aims in order to examine the influences on food choice and the nutrition transition within the Bangladeshi community, and enable the development of knowledge to enhance public health:

1. To investigate the psychological, socio-cultural, economic and environmental factors influencing food choices and physical activity.
2. To investigate the trend in eating and physical activity patterns between two generations of British Bangladeshis, specifically with relevance to the development (and contribution to the prevention) of Type 2 diabetes.
3. Draw on existing data to review the potential effect of educational levels, social class, access to housing and employment status, as well as considering the broader policy context from the point of view of the community participants themselves together with a diverse range of key stakeholders who influence obesity and diabetes prevention policy, and reflect the multi-level governance within public health.

These research aims formed the basis of the research questions investigated and the themes of the interview topic guides as summarised below in table 5.3, together with the selection and recruitment of the interview participants, as shall be detailed in the following sections.

Research questions	***Interview questions***
Chapter 2 – Bangladesh: country and culture	
What are the potential effects of educational levels, social class, access to housing and employment status? What are the attitudes and beliefs in the Bangaldeshi community towards food and food behaviour? Where do the people in this Bangladeshi community primarily gain their knowledge about food and healthy eating? What characterises a traditional Bangladeshi versus a more western style	Demographic questions Can you tell me some of the things that are important to you when selecting the food and drinks that you eat and drink? Where do you think your general knowledge about food and diet comes from and in particular what foods are healthy? Can you tell me what foods / drinks in particular you consider to be healthy or unhealthy? Can you explain why?

diet? What are the main changes in food choice for the first generation over the years since migrating to the UK? What are some of the differences in the eating patterns of two generations of British Bangladeshis? How and why consumption style has changed? What factors contribute to the maintenance of traditional food practices? What food practices are currently occurring within the home with respect to cooking and meal time structure? What factors contribute in both groups to making healthy dietary choices? What are the food shopping practices in the Bangladeshi community and has this changed? If so, how? What is the understanding amongst the key informants of the cultural, religious and health beliefs, and the implications for health care practice and preventions programmes?	Can you tell me about how you cook and prepare your food? How often do you eat 'traditional' Bangladeshi foods? Meal times structure and snacking habits? Food shopping habits and the availability of outlets stocking 'traditional' and halal foods in Tower Hamlets? What is your view on supermarkets? Can you describe your lifestyle? Is there anything else you can tell me about what you feel needs to be done to enable people to make 'healthy' food choices & increase physical activity in your community?
Chapter 3. Diabetes Mellitus: models of causality	
What are the economic considerations when making food choices? What are the experiences and knowledge about diabetes within the Bangladeshi community? What are the professional connections with diabetes; personal experiences of diabetes and knowledge regarding diabetes?	Is your family income adequate to buy sufficient (healthy) foods for yourself and your family? Do you know what diabetes is? Can you tell me what you know about how you get / what do you feel are the main causes of diabetes? How much do you think can be done by

What are the potential environmental influences on food choice? What are the barriers to accessing healthy food options? What is the understanding, within civil society and government, of the current obesity and diabetes epidemics and potential for prevention? What are the key policy issues and drivers for obesity and diabetes prevention in this community?	individuals alone? *Community specific:* Does anybody in your family have diabetes? Who? Do you think there is anything that you can do to avoid getting diabetes? Due you feel that as a community there may be things that you could do to help push for improvements in the areas you have identified as important? *Key informant specific:* Can you please give your views on why obesity / diabetes have now become such a dominant issue? Evidence has been strong for decades – so why now? What has been the tipping point? There are many views on whom / what is responsible for the current obesity / diabetes epidemic - please comment. Are you aware of the prevalence of Type 2 diabetes (in this community compared to the whole UK population)? Explain What do you feel the public health implications of diabetes are? What do you think members of this community can do themselves to help reduce the risk of developing Type 2 diabetes?
Chapter 4. Food Policy	
What are the gaps between public health policy theory and practice for the prevention of obesity and diabetes? Are there gaps between key government	Opinions specifically about potential policies concerning food: Government regulation of the advertising of 'junk' food and fast food, aimed at children,

reports, polices and practice? If so, what are these? What are the consequences of government policies and programmes to date? To what extent does Public Health facilitate the engagement of Civil Society, into the development of public health policy, locally and nationally? What is the role of the State versus personal responsibility? Do contemporary theoretical public health frameworks reflect current practice?	such as is done for alcohol and cigarettes? A tax on high fat/sugar/salt foods? Food labelling Reducing the number of fast food outlets e.g. fried chicken shops, pizza shops Making it an individual responsibility to make dietary & lifestyle changes versus, say, social policies that change the environment to enable better choices What do you think others e.g. policy makers, the government, can do to help reduce the incidence of overweight / obesity / diabetes in this community? Is it the governments' responsibility to influence our food choices? Explain. Can you outline things that may need to be done to the infrastructure in the community to help people to avoid getting diabetes? *Key informant specific:* Where are current obesity / diabetes policy developing? What do you see as the role of 'public knowledge' (lay) in obesity / diabetes prevention policy? What do you feel are the issues, both positive and negative, around evidence based policy? What, if any, is the role of the precautionary principle in policy? Do you see a role for broader expertise e.g. social science, town planners? Looking now to specific strategies for obesity

	/ diabetes prevention policy, what are your views on current strategies, both the demand and supply side – what you consider will be the most / least effective? What are the key issues and challenges for professional practice?

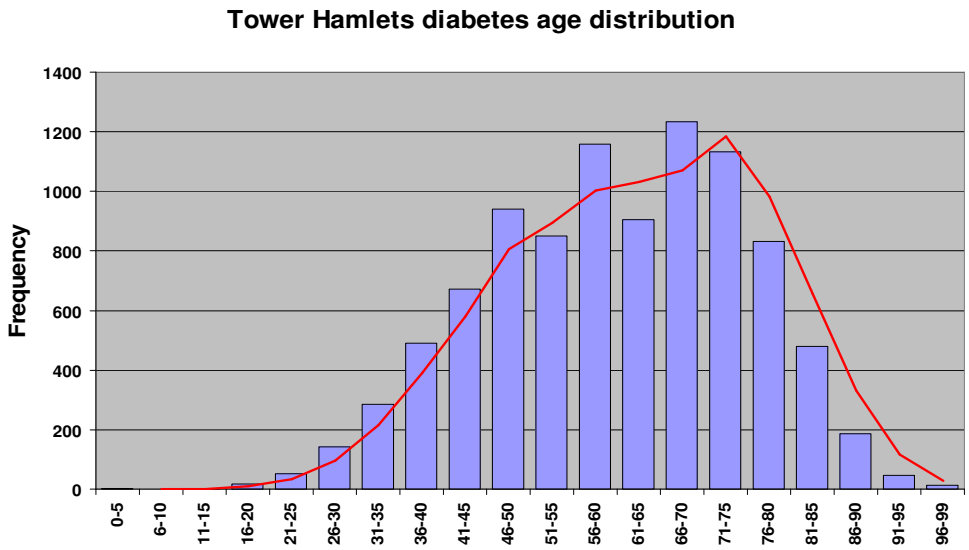
Table 5.3: Summary of research and interview questions arising from the literature.

5.6.1 Community Participants

5.6.1.1 Inclusion criteria

To reflect the intentions of the research, a purposive sample of the community participants chosen were from the Bangladeshi community in Tower Hamlets where there in a large population (91% of the Asian population which represents 36.6% of the total population, as noted in chapter 2 section 2.4.1), together with the fact that Bangladeshis of both sexes are more than five times as likely as the general population to have diabetes. This particular Bangladeshi population is also unique in the fact that it predominantly consists of people from the Sylhet region of Bangladesh and is a very insular community. Furthermore the location of the study was restricted to Tower Hamlets due to the funding source which dictated that the study needed to be conducted with people that fall within Barts and The London NHS Trust and Tower Hamlets PCT.

The participants selected within this community were further restricted to a purposive sample of those from the 1st and 2nd generations, male and female, adult (20-50 years of age), British Bangladeshis. The 1st generation was classified as those who have been born Bangladesh and immigrated to England while the 2nd generation Bangladeshis were classified as those who have been born in the UK or, for the purpose of this study, born in Bangladesh, (arriving in the UK ideally at less than 4 years of age), but completed their education in the. Other studies (Nazroo JY 2001) considered non-migrants as those less than 11 years old although they noted they would have achieved similar results if the cut off was less than 5 years old.
The age range was restricted as this study was aimed at preventative strategies, targeting the modifiable risk factors, for the development diseases such as Type 2 diabetes in this high risk subgroup of the general population. Graph 5.1 shows the Tower Hamlets diabetes age distribution. A secondary consideration was to avoid large differences within the groups of 1st and 2nd generation participants due to age.



Graph 5.1 Diabetes population age distribution in Tower Hamlets
(Department of Public Health 2007)

5.6.1.2 Exclusion criteria

Members of the Bangladeshi community were excluded from the study if they had learning difficulties or mental health issues that would affect their ability to participate in the in-depth interviews, were non-Bangladeshi adults, were less than 20 or greater than 50 years of age, resided outside of Tower Hamlets or had been diagnosed with Type 2 diabetes (according to the their own knowledge).

Those with communication difficulties have been excluded as the nature of the qualitative interviews requires that in-depth of discussion of the topics take place.

Immigrants or refugees who have not been given leave to remain will be excluded from the study as they are likely to have a number of additional or unique social issues which may distort the results.

Adolescents and children have been excluded from the sample as their eating behaviours and food choices may be markedly different in this age group. Due to the age group significantly different, more appropriate, interview tools would also be required. Furthermore their inclusion would increase the total number of participants required to undertake the study which was outside of the scope of this project in terms of both timescale and funding.

Finally, those with existing Type 2 diabetes were excluded as the views with respect to diet are likely to be influenced by their condition and to be different to 'healthy' volunteers who do not have a therapeutic influence on their food choices. Plus significantly, as noted, the study is aimed at public health and food policy prevention strategies for obesity and Type 2 diabetes.

5.6.1.3 Recruitment

Assistance was provided throughout the project by Social Action for Health (SAfH), who have strong links within the community, in order to gain access to the community by providing contacts and introductions where required. The facilitators from Nania, who were employed to facilitate the interviews, undertook the recruitment of the Bangladeshi participants for the paired interviews to pilot of the interview topic guide and the one-to-one in-depth interviews, as well as gaining the informed consent of the participants. A sub-group of the participants recruited for the one-to-one in-depth interviews were also invited to participate in the Multiple Pass Dietary Recall.

Due to the nature of the research the participants were purposively selected from within the community from Bangladeshi community centres across the Borough and religious groups. This method enabled participants to be chosen based on particular characteristics, for example different generations, gender, and education level, in order to reflect the diversity within the population, including the "outliers" which may be discounted in quantitative approaches (McLean C & Campbell CM 2003;Pope C, van Royen P, & Baker R 2002). Due to difficulties with recruitment and to locate hard to reach individuals, informants and/or social networks were also used (McLean C & Campbell CM 2003;Pope C, van Royen P, & Baker R 2002) by the use of snowball sampling whereby further potential participants were identified by earlier participants in a study. Using these methods to recruit the participants the aim was to maximise the representation of the local Bangladeshi community, including those people who do not usually access *Western* medical services.

Consideration was also given to the number of interviews conducted with the aim being to attain theoretical saturation rather than representative sampling. Theoretical saturation is attained when no new information is gained from conducting further interviews (Flick U, von Kardorff E, & Steinke I 2004). It was not the intention however to be able to extrapolate the findings of this study to the wider Bangladeshi community, so while transferability is important, that is, the process is made clear so that others may apply to a different setting, generalisability is not. As such, it was the internal consistency of approaches taken that was necessary. Based on these considerations and discussion with academic supervisors, it was decided to conduct twenty interviews with five participants from each of the four groups as defined in the section 5.6.1.1 "Inclusion Criteria": first generation male and female, and second generation male and female, with further follow-up interviews being undertaken if deemed necessary and if the time and resources permitted.

Face-to-face recruitment was undertaken by the facilitators from Nania for the both the pilot interviews and one-to-one interviews with the community participants. Previous studies have shown that consent to participate, in ethnic minority communities, can be more successfully obtained when the potential participants are contacted in person rather than by telephone (Marshall S and While A 1994). Contacting the potential participants via an initial letter of

invitation is not appropriate due to the high rate of poor literacy within the community (Health Education Authority 1992; Jamil Ali 2000).

All participants were advised at the outset that it was their choice to decide whether or not to take part and it is completely voluntary. There would be no sanctions enacted if they choose to decline for all or some of the component of the study. The potential participants being recruited were asked to read the explanatory statement detailing the project and expectations or they were able to choose to have the statement read to them by the recruiter. The potential participant was advised that they were free to ask any questions necessary, in relation to the project so that they were clear what the purpose was and what the expectations of them were. If the potential participant agreed to take part in the research, they were asked to complete and sign the written consent form. For potential participants that needed to give verbal consent, due to illiteracy in either English or Bengali, the consent form was read to them in front of a witness chosen by them, who then were able to give consent, signing the form on their behalf. Once consent had been given by the participants, the recruiter arranged the time and place for the interview. The recruiter took the contact details of the participant and vice versa so that changes to the planned interview time or place (or withdrawal) could be made if necessary. The recruiter also contacted the participant prior to the meeting to confirm the arrangement.

5.6.1.3.1 Facilitator Observations of the Recruitment Process: semi-structured interviews

The facilitators provided specific details of the recruitment process for both the paired interviews for the pilot of the interview topic guide and the one-to-one in-depth community interviews which are outlines below. This feedback from the facilitators highlights some of the issues when attempting to undertake research within a community setting.

- Female Community Participants

The interview participants were recruited with the assistance of Social Action for Health (SAfH) and Nania Ilm Studio (NIS) contacts, from the Jagonari community centre, Wapping Women's Centre, and through the use of snowballing and opportunistic contacts (younger women).

The facilitator had difficulty recruiting the participants using the organisations that had originally agreed to help in the process. Nania had to source individuals' themselves through existing contacts. Jagonari while not actually providing any participants did allow access to groups and classes to approach individuals directly. Whilst this worked with older women, they didn't really have anything for younger women, but instead put forward two of their voluntary staff for the pilot interview. For the one-to-one interviews, the younger women were drawn from the most varied sources; two from Jagonari, one from the mosque who suggested another participant and the final was opportunistically approached through existing contacts. The Wapping Women's Centre supplied two of the older women for the one-to-one interviews. They were an existing contact of Nania and had allowed access to users before. A number of community centres contacted however were not able to be used as a source of recruits due issues including being

provided with incorrect email addresses for the staff, telephone calls not being returned and staff changes. Also, while some centres provided the facilitator with lists of the groups conducted at the centres, they were not able to be used as a source due to not meeting the inclusion criteria.

The focus groups were held at the Jagonari community centre for both the first and second generation female participants. The individual interviews were held at homes of respondents for all older women; younger women were at home or place of work.

For all groups, there were difficulties in conducting interviews where people had initially agreed to take part and then were evasive with availability. They were usually pursued for three phone calls and then dropped as potential participants. An older woman had her interview stopped at the start when she revealed she had diabetes, although at point of recruitment had said she did not. As her diabetes was well controlled with her medication, she felt able to identify herself as not diabetic.

- Male Community Participants

As for the female participants SAfH assisted in the recruitment of participants although the SAfH contact admitted difficulty in getting participants, due to their own role as part-time staffer, and the participants being generally unwilling. SAfH were able to provide only two second generation male participants for the one-to-one interviews. SAfH were previously good source of participants for interview projects for Nania Ilm Studio (NIS), but staff changes in interim period led to reduced communication. Example includes delayed responses to emails/phone messages (sometimes no response at all) from staff.

The male facilitator eventually broadened the scope of recruitment by building new relationships with a diverse range of community groups and linking with institutions such as mosques for a wider pool of participants. By doing this the facilitator was able to secure participants for the interviews. On each occasion, the research brief was explained to participants and where possible, printed copies of 'Explanatory Statements' and overview given, sometimes backed up with brief summary via telephone or personal conversation. As with the female participants, on one occasion a first generation male needed to be disregarded at point of interview when he belatedly mentioned having diabetes. Also, one of the first generation male participants (OM SMA) interviewed did not meet the age criteria and thus it was requested that a further participant be recruited and interviewed. As this participant had already given his time to the study however, and his views and knowledge were a valuable contribution to the research, the interview was included. Rather than being treated as a community participant interview per se' OM SMA was instead included as part of the key informant interviews and classified as an 'elder'.

In all cases, participants were happy to be interviewed in their homes or workplace after hours. The facilitator noted however that due to voluntary nature of participation, subjects sometimes

'missed' appointments or called to cancel at the last moment. This was consistent phenomenon throughout, leading to protracted process. It was also noted that due to unforeseen issues relating to the female facilitator, some of the interviews conducted in early 2007 were not able to be transcribed until June/July/August. The Chief Investigator was kept updated and informed of problems and issues.

In early months of interview process, many of the participants approached directly by NIS or its community contacts proved wary of recorded interviews. Sample opinions suggested a general wariness against a backdrop of national media coverage of wider events, for example, adverse reportage Muslims and thus a perception of Islamophobia.

5.6.1.3.2 Facilitator Observations of the Recruitment Process: *Multiple Pass Dietary Recall*

- Female Community Participants

The female facilitator found the multiple pass dietary recall (MPR) to be very difficult. The format of the MPR, revisiting the information provided a number of times as required (multiple passes), was considered a somewhat intrusive process. While the participants were amenable to listing the foods on the first pass, they were less willing, to various degrees, to provide the detail of amounts and times.

The facilitator felt that this methodology was the most inappropriate for this cohort with too much work being required on their part, and believed that the structuring of the questionnaire could have been redesigned to be more user-friendly. There was a tension between the expectations of the interviewees who had agreed to have a quick chat about the foods they had eaten, not anticipating the depth of enquiry and repetitiveness of the questionnaire, and the need to ask indepth questions to obtain the level of information desired. Whilst most were amicable at point of first call, by the end of the call and follow up calls, rather than the familiarity of having experienced the MPR process making it easier, the convoluted nature of the questionnaire made the calls less friendly. The lack of engagement on the part of the female participants in the MPR process is reflected in the comments, or lack there of, when asked at the end of each interview. This tension between expectations also indicated an issue with the recruitment and the facilitator not clearly explaining the process to the individuals.

- Male Community Participants

The male facilitator conducted and completed the MPR process in a relatively short time and with ease, despite any initial apprehensions following discussions regarding the progress of the female facilitator.

The male facilitator concluded that the excellent rapport he had built with participants during the phase II interviews undoubtedly helped. The participants proved willing and were enthusiastic

about inviting the interviewer into their homes again despite the intention to conduct the interviews via telephone. The interviewer discerned a sense of pride and valuable contribution on the part of respondents.

The differences in family role with respect to food preparation may also have had an impact on how receptive the participants were to such in-depth questioning. For the male particiants, any issues regarding food preparation is a problem of what is traditionally seen as 'women's work' and not their own. For the female participants however, food preparation is more intimately part of their family role and identity, and therefore may have been more dubious about the need to answer indepth questions.

5.6.1.4 Characteristics of the community research participants

The community participants were divided into four groups: first generation male and female, and second generation male and female. Demographic information was collected for all community participants for both the paired interviews during pilot phase (I), and the one-to-one in-depth interview phase (II) of the research. This information was collected to assist during the data analysis by placing the knowledge obtained from the interview within a broader context of the material causes of health inequalities.

Table 5.4 provides details of the demographic information collected prior to each interview. 'Free text' denotes that the interview participant wrote their response rather than selecting an option from a list as there was potentially a wide range of possibilities.

Attribute	**Attribute Properties**
1st language	Sylheti Bengali English Other
Other language (Other than 1st)	*Free text*
Age	20-24 25-29 30-34 35-39 40-50
Age arrived in Britain	*Free text*
Country of birth	Britain Bangladesh; Other
Number of children	1,2,3 or 4 More than 4, please specify

Attribute	Attribute Properties
Dependent children (Living at home)	1,2,3 or 4 More than 4, please specify
Educational qualification	None GCE O level or CSE GCE A level Degree or technical or professional or vocational Other
Employment	Full time Part time Irregular employment Not employed Volunteer Not applicable - Pensioner
Gender	Male Female
Generation	First Second
Marital Status	Married Single Other
Religion	Muslim Hindu Other
Social Security Benefits[32]	Income support Family credit Other Not applicable[33]
Social security benefits - family	Income Support Family Credit Refugee Benefits Other Not applicable
Tenure	Owned outright Owner with mortgage Local authority rented[34] Housing Association rented[35] Private rented Living with family / other

[33] This option added for the phase II interviews following revision of the data collection form after the phase I pilot.
[34] Each local authority will have different criteria for entry to its housing register; needs will be assessed in accordance with the council's points scheme.
[35] Housing associations offer independent property for rent run by Registered Social Landlords (RSLs).

Attribute	Attribute Properties
Total family - household income	Less than £10 000 per year £10 001 – 15 000 per year £15001 – 20 000 per year Greater the £20 0001 per year If yearly income not known, total family / household weekly income – *free text*

Table 5.4 Attribute properties for community interview participants

5.6.1.4.1 Characteristics of the community participants: phase I pilot interviews

The following tables provide the details of each of the research participants from the pilot interviews. Where information was not collected this is noted by the term 'unassigned'. Where additional information was provided by the participants when 'other' was cited, this has been included.

The anonymised code can be read as:
PI = phase I
OM = older men
OW = older women
YM = younger men
YW = younger women
P = number given to the participant

Attribute	PIOM – P1	PIOM – P2	PIOM – P3
Marital status	Married	Married	Married
Gender	Male	Male	Male
Country of birth	Bangladesh	Bangladesh	Bangladesh
Religion	Muslim	Muslim	Muslim
Number of dependent children	Unassigned	> 4	2
Age	35-39	40-50	40-50
Tenure	Housing Association rented	Local Authority rented	Housing Association rented
Employment	Irregular employment	Not employed	Part-time
Total family/household income per annum	Less than £10 000	Unassigned	Greater than £20 000

Social security benefits	Income support	Income support	Unassigned
Other household social security benefits	Unassigned	Income support	Unassigned
Highest educational qualification	GCE A level	Degree / professional /technical / vocational	Degree / professional /technical / vocational

Table 5.5 Details of 1st generation men: Phase I pilot interviews

Attribute	P1OW – P1	P1OW – P2	P1OW – P3
Marital status	Married	Married	Married
Gender	Female	Female	Female
Country of birth	Bangladesh	Bangladesh	Bangladesh
Religion	Muslim	Muslim	Muslim
Number of dependent children	6	4	>4
Age	40-50	40-50	40-50
Tenure	Local Authority rented	Owner with mortgage	Local Authority rented
Employment	Not employed	Not employed	Not employed
Total family/household income per annum	£10 000 - £15 000	Unknown	Unassigned
Social security benefits	Income support	Income support	Unassigned
Other household social security benefits	Unassigned	Unassigned	Unassigned
Highest educational qualification	None	None	None

Table 5.6 Details of 1st generation women: Phase I pilot interviews

Attribute	P1YM – P1	P1YM – P2
Marital Status	Single	Married
Gender	Male	Male
Country of birth	Britain	Britain
Religion	Muslim	Muslim

Number of dependent children	Unassigned	2
Age	20-24	20-24
Tenure	Living with family	Local Authority rented
Employment	Not employed	Irregular employment
Total family/household income per annum	£10 000 - £15 000	Unknown
Social security benefits	Income support	Other
Other household social security benefits	Income support	Other
Highest educational qualification	Degree / professional /technical / vocational	Unassigned

Table 5.7 Details of 2nd generation men: Phase I pilot interviews

Attribute	P1YW – P1	P1YW – P2
Marital Status	Single	Single
Gender	Female	Female
Country of birth	Britain	Britain
Religion	Muslim	Muslim
Number of dependent children	Unassigned	Unassigned
Age	20-24	25-29
Tenure	Housing Association rented	Living with family
Employment	Full time	Full time
Total family/household income per annum	Unknown	£10 000 - £15 000
Social security benefits	Unassigned	Unassigned
Other household social security benefits	Income support	Income support
Highest	GCE A level	Degree / professional

educational qualification		/technical / vocational

Table 5.8 Details of 2nd generation women: Phase I pilot interviews

On completion of the phase I interviews and the following review of the interview topic guide minor amendments were made to the data collected. These amendments are outlined in section 5.4.1, "Amendments to the interview schedule".

5.6.1.4.2 Characteristics of the community participants: phase II one-to-one interviews

The following tables now outline the characteristics of the one-to-one interview participants from phase II. As before, where information was not collected this is noted by the term 'unassigned'. Where additional information was provided by the participants when 'other' was cited, this has been included.

The anonymised code can be read as:

PII = phase II

OM = older men

OW = older women

YM = younger men

YW = younger women

The number given is the sequence of the interview

The initials represent the individual

Attribute	PII OM 01SA	PII OM 02AH	PII OM03 HRK	PIIOM 04MA	PIIOM 05 FA
Marital status	Married	Married	Married	Married	Married
Gender	Male	Male	Male	Male	Male
Country of birth	Bangladesh	Bangladesh	Bangladesh	Bangladesh	Bangladesh
Age of arrival in UK (if applicable)	37	18	Unassigned	31	15
Religion	Muslim	Muslim	Muslim	Muslim	Muslim
Number of children	1	4	4	3	4
Number of dependent children	1	4	4	3	3
Age	40-50	40-50	40-50	40-50	40-50
1st language	Bengali, Sylheti	Sylheti	Sylheti	English	Sylheti

Other language	English, Hindi, Urdu	Hindi	English, Bengali	Bengali, Sylheti	Bengali, English, Urdu
Tenure	Private rented	Owner with mortgage	Owner with mortgage	Owner with mortgage	Owner with mortgage
Employment	Part time	Not employed	Full time	Full time	Full time
Total family/household income per annum	> £21 000	> £21 000	> £21 000	> £21 000	> £21 000
Social security benefits	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Other household social security benefits	Not applicable	Unassigned	Not applicable	Not applicable	Not applicable
Highest educational qualification	Degree / professional /technical / vocational	Degree / professional /technical / vocational	Degree / professional /technical / vocational	Degree / professional /technical / vocational	Other

Table 5.9 Details of 1st generation men: phase II one-to-one interviews

Attribute	**PII OW 01SB**	**PII OW 02RB**	**PII OW 03RS**	**PIIOW 04MB**	**PIIOW 05RB2**
Marital status	Married	Married	Married	Other - widowed	Other - divorced
Gender	Female	Female	Female	Female	Female
Country of birth	Bangladesh	Bangladesh	Bangladesh	Bangladesh	Bangladesh
Age of arrival in UK (if applicable)	28	35	23	21	Unassigned
Religion	Muslim	Muslim	Muslim	Muslim	Muslim
Number of children	5 (One deceased)	7	6	4	2
Number of dependent	2	3	3	4	0

children					
Age	40-50	40-50	40-50	40-50	35-39
1st language	Sylheti	Sylheti	Sylheti	Sylheti	Sylheti
Other language	None	None	None	None	None
Tenure	Local authority rented	Local authority rented	Owner with mortgage	Local authority rented	Local authority rented
Employment	Not employed	Not employed	Not employed	Not employed	Not employed
Total family/household income per annum	< £10 000	< £10 000	£15 000 – £20 000	Unknown (One son at work)	< £10 000
Social security benefits	Income support	Income support Family credit Other: child benefit	Income support	Widows benefit	Income support
Other household social security benefits	Other: Husband pension	Other: Husband pension	Other: Husband pension	Not applicable	Not applicable
Highest educational qualification	None	None	None	None	None

Table 5.10 Details of 1st generation women: phase II one-to-one interviews

Attribute	PII YM 01 AN	PII YM 02 ZK	PII YM 3MSS	PII YM 04 AS	PII YM 05 AH
Marital status	Single	Single	Married	Married	Married
Gender	Male	Male	Male	Male	Male
Country of birth	Britain	Bangladesh	Bangladesh	Bangladesh	Britain
Age of arrival in UK (if applicable)	12*[36]	2-3	Unassigned	6*[13]	Not applicable
Religion	Muslim	Muslim	Muslim	Muslim	Muslim

[36] Outside specified inclusion criteria for second generation

Number of children	Unassigned	0	1	2	Unassigned
Number of dependent children	1	0	1	2	2
Age	25-29	20-24	25-29	25-29	30-24
1st language	Sylheti	Sylheti	Bengali	Sylheti	English
Other language	English, Bengali	English	Unassigned	Hindi	Sylheti
Tenure	Living with family	Living with family	Owner with mortgage	Owner with mortgage	Owner with mortgage
Employment	Full time	Not employed	Full time	Full time	Full time
Total family/household income per annum	> £20 001	> £20 001	> £20 001	> £20 001	> £20 001
Social security benefits	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Other household social security benefits	Other	Income support	Not applicable	Not applicable	Not applicable
Highest educational qualification	Degree / professional /technical / vocational	GCE A level	Degree / professional /technical / vocational	GCE A level	GCE A level

Table 5.11 Details of 2nd generation men: phase II one-to-one interviews

Attribute	PII YW 01 RB	PII YW 02AB	PII YW 03 SS	PII YW 04SB	PII YW 05YC
Marital status	Single	Single	Married	Single	Single
Gender	Female	Female	Female	Female	Female
Country of birth	Britain	Britain	Bangladesh	Britain	Britain
Age of arrival in UK (if applicable)	Not applicable	Not applicable	3	Not applicable	Not applicable
Religion	Muslim	Muslim	Muslim	Muslim	Muslim
Number of children	0	0	1	0	0

Number of dependent children	Not applicable	Not applicable	1	0	0
Age	20-24	20-24	20-24	20-24	20-24
1st language	Sylheti	English	Sylheti	Sylheti	Bengali
Other language	English	Sylheti	English	English	English
Tenure	Living with family	Living with family	Local Authority rented	Living with family	Living with family
Employment	Not employed	Not employed	Part time	Not employed (East London Mosque)	Full time
Total family/household income per annum	Unknown (6 people in household; all unemployed)	Unknown (All in household unemployed)	£15 000 – 20 000	£15001 – £20 000 or > £20 001 (Unsure)	> £20 001
Social security benefits	Other: Job search allowance	Other: Job search allowance	Family credit	Other: Job search allowance	Not applicable
Other household social security benefits	Other: Child benefit	Income support Other: Child benefit	Not applicable	Other: Child benefit	Not applicable
Highest educational qualification	Degree / professional /technical / vocational	Degree / professional /technical / vocational	Degree / professional /technical / vocational	Degree / professional /technical / vocational	Degree / professional /technical / vocational

Table 5.12 Details of 2nd generation women: phase II one-to-one interviews

The majority of the demographic information was collected for all of the phase II participants, a notable improvement being seen from that obtained in phase I. This was a result of improvements in the layout of the questions asked following feedback from the facilitators and the participants. It was also re-emphasised to the facilitators the importance of collecting this information and therefore the necessity to revise the data collected for completeness, addressing any unanswered questions with the participants.

5.6.1.5 Phase I: Paired interviews to pilot the interview topic guide and interview process

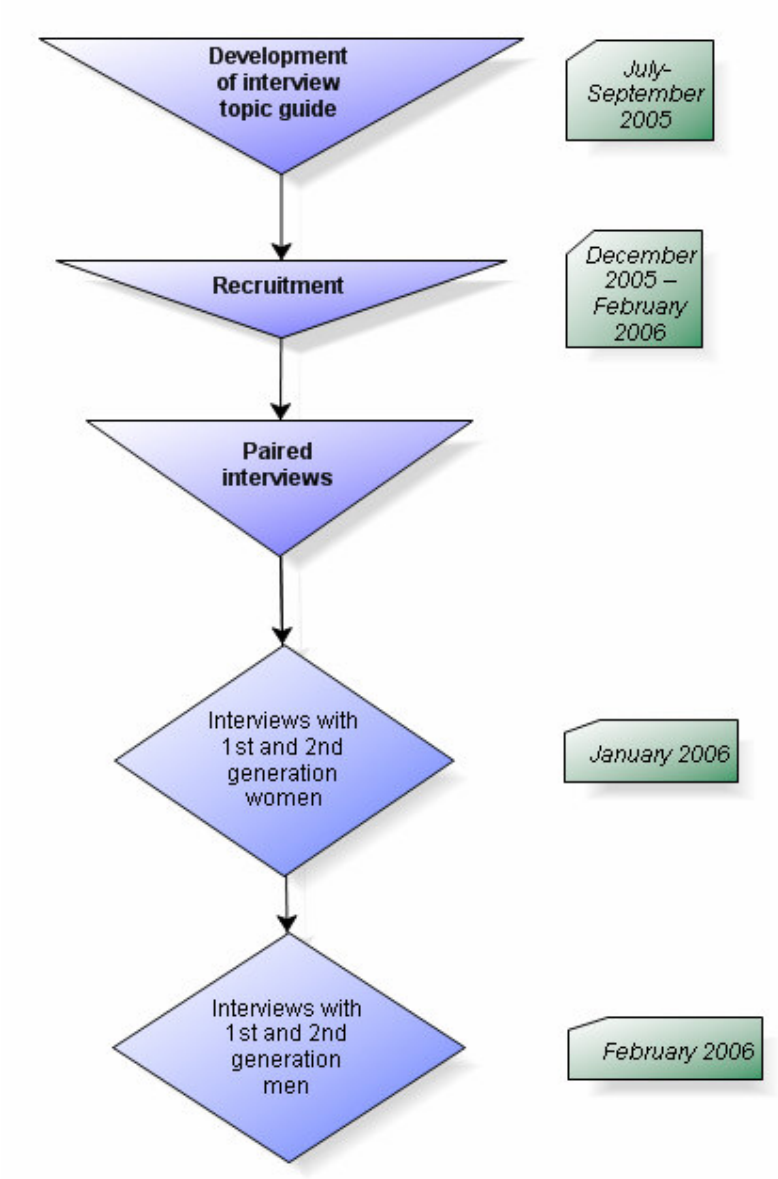


Figure 5.2 Timeline: Phase I

5.6.1.5.1 Development of Interview Topic Guide

The interview topic guide was developed following the review of literature as outlined in chapters 2-4 and the initial scoping work (see appendix 10). The guide was shaped by the aim of this research: to explore through in-depth analysis, from a social, political and economic point of view, the emerging epidemic of obesity and Type 2 diabetes, among British Bangladeshi adults, living in Tower Hamlets East London, with the specific questions being based around the research aims as outlined in chapter 1, section 1.2. Table 5.13 provides a summary of the community interview topic guide themes. See appendix 10 for a copy of the full topic guide which includes the prompts for each theme.

1	What is considered important when choosing food and drinks
2	Where general knowledge of food and diet comes from
3	Foods in particular that are considered healthy or unhealthy
4	How food is cooked and prepared
5	Adequacy of income to buy desired foods for self and family
6	Frequency of eating traditional foods
7	Meal time structure and snacking habits
8	Opinion on fast-food restaurants and take-aways
9	Food shopping habits
10	View on supermarkets
11	Description of lifestyle
12	Knowledge of diabetes

Table 5.13 Community participant interview topic guide themes

5.6.1.5.2 Paired interviews to pilot the interview topic guide

Paired interviews were conducted to pilot the interview process and test the interview schedule developed following the review of literature and initial scoping work. Piloting aims to improve question clarity and remove any problems e.g. in relation to participant interaction and dynamics, before the main study (Pope C & Mays N 1995). The participants were selected to represent the members of the community who were invited to take part in the one-to-one semi-structured interviews which form the main body of the research. Community participant characteristics described previously.

The interviews were conducted by the facilitators from Nania with an observer from Nania also being present in order to take field notes according to a defined method. Appendix 5 has a copy of the Pilot Paired-Interview Observation Guide. The interview schedule was modified in light of the pilot findings as detailed following.

5.6.1.5.3 Utility of the interview schedule and interview process

The following information was obtained from the written field notes of the interview facilitators and interview observers, as well as from the follow-up discussion with the main contact from Nania (the female facilitator). The interviews had two or three participants in each. This information was used to make amendments to the interview topic guide, including the initial demographic questions.

<u>First generation women's paired interview</u>

There were three participants together with the female facilitator and female observer for this session.

As anticipated these 1st generation women had poor literacy therefore were unable to read the information themselves. By the facilitator offering for the participants to either read for themselves, or have read to them, the explanatory statements and consent forms, there did not appear to have been any awkwardness or embarrassment caused by this. The explanations and interview were undertaken in Sylheti and all of the forms filled in for the participants by the facilitator. The participants took the bilingual information sheets home, for family or friends, to read at a later stage if they wished.

The participants were required to complete two separate consent forms. One to participate in the interview, and the other expressly for the tape recording. The participants did not see the need for this and consequently caused some confusion. This would have also wasted valuable time. There was the impression that there was a lot of paperwork involved.

Unfortunately not all of the demographic information was collected, especially the section on total family / household income and whether other adults in the household were in receipt of social security benefits. This was due to lack of time in one case and not knowing the information in another. Also, for number of children, rather than having the last category as '4 plus', it may be better to either simply ask the participant to specify, or have '4' and then '>4 - please specify'.

The time allocated for the pilot of the interview schedule was a slightly limited for the older women's group due to both the time taken to complete the consent forms and collection of the demographic data, and the fact that it was scheduled only an hour before the participant's yoga class. While the scheduling was convenient, a little longer would have been useful, especially considering there ended up being three participants. Some issues could not be explored / expanded upon due to the limited time.

All of the women were apparently relaxed throughout the interview, possibly helped by the fact that two of the participants appeared to know each other and the third knew Nilufar Ahmed (the facilitator) from previous work she had done in the community. It was noted that the women all appeared to be interested in the topic, becoming more involved as the interview progressed. There appeared to be increased interest when the women spoke about their children.
The facilitator and observer felt that all of the respondents seemed to understand the questions and did not take offence to any of the questioning at any stage. The women were all able to express their views.

The women were interested in learning more, especially about diabetes so this will be an area that could be addressed at a later stage. It needs to be made clearer from the outset, during recruitment, that these are not education sessions.

<u>Second generation women's paired interview</u>

There were two participants together with the facilitator and observer for this session.

The interview was conducted in English and the two women completed their own consent forms and demographic information. Again there was a little confusion with respect to the questions about benefits, specifically whether first question regarding social security benefits applied to themselves or other members of family, and also did not always know their total household income; a change in format and clarification will be required.

The actual interview was considered to go well. The participants seemed relaxed, animated and at ease – they had good rapport between themselves. There was very good participation overall and participants seem interested. There appears to have been no confusion or issues answering the questions; with the exception of the use of the term 'active' which needed clarification. When talking about incidental and non-incidental activity therefore may need to be a little less ambiguous or give examples. None of the questioning was considered to be inappropriate. There was no issue with time for this interview therefore the session did not get rushed.

The participants apparently seemed to appreciate that the interviewer was also Bangladeshi with shared cultural characteristics and therefore able to relate to the cultural aspects of the discussion, for example the references to particular foods and festivals
The interviewer allowed the women to have free discussion and reflected back on previous answers to help with the flow, probe further etcetera as the interview went along.
Once again, the women were interested to learn more about diabetes.

<u>Second generation men's paired interview</u>

There were two participants together with the facilitator and observer for this session.
There was some difficulty with the recruitment and getting assistance from the contact at SAfH as previously arranged; arrangements were not confirmed until the very last minute. The Chief Investigator had to contact the director of SAfH to query whether another contact would be necessary but there was no reply. It was following this however that the session was arranged. Of all the groups arranged they were the only one that had did not know what the study was about until they arrived. All other group participants had had some kind of information beforehand as they had been arranged with the contacts at SAfH. In future it may be better to have Nania use their contacts within the community when recruiting and to simply note that the project is supported by SAfH.

There were a few issues with the younger men's group and was seen by the facilitator to be 'a tad more difficult'. It was not clear, but the men did not seem very keen on participating despite consenting to do so; the facilitator was suspicious that the contact from Social Action for Health (SAfH) had insisted that the two men attend. They did not appear to be very motivated. One of the respondents does some work for SAfH.

Both of the respondents arrived late without explanation. The study background was explained to both participants; they chose to take the explanatory statement home to read. The men were both able to fill in the information sheets by themselves but as with the other groups there was

the impression that there was a lot of paperwork which took some time to complete. All of the discussion took place in English.

Unlike the other interviews where the facilitator and respondents were gender matched, the female facilitator undertook this session. This was done to help ensure that there was a consistency in the style of interviewing across all groups, and this was the most appropriate group for a mixed facilitation. It was important that the men's group be run in as similar a way as possible as the women's, and as it would not have been appropriate for a man to be present in the women's' groups, this was the only group where (the male facilitator - NI Ali) could observe the way the group was conducted. The female facilitator (Nilufar Ahmed) did not feel that having a female facilitator hindered the interview - there was no surprise or reluctance on the part of either men when they came in. Nilu explained that she was facilitating because she had facilitated the others so far and it was necessary for NI Ali to observe.

It was noted that both of the respondents seemed a little distracted throughout the interview, "*'A' got up a couple of times to look out of the window to check his car and answer a phone call, although he returned almost immediately*". Both of the respondents did start to get much more involved in the interview as it progressed but again towards the end began getting a little bored again due to the number of questions. There was no difficulty answering any of the questions and there were none that caused any offence or embarrassment.

Because the men arrived late the interview time was cut short. Their late arrival also resulted in the interview running into the time scheduled for the older men's groups, which then had to be pushed back a half an hour. It was considered that, in the future, it would be prudent to leave more leeway bewteen. The 1-1 interviews are more likely to occur in respondents home therefore 'lateness' was not thought to be so much of an issue for phase II.

<u>First generation men's paired interview</u>

There were three participants together with the facilitator and observer for this session.
The forms were completed in English and all men were able to speak in English, they all however preferred the written information to be given to them in Bengali. The whole interview was conducted in Sylheti, although the men did have a good command of English and used a significant amount of English words in their responses.

The facilitator felt the older men's group went well. There was good participation by all respondents throughout and all the men were comfortable with each other. The discussion appeared to be enjoyed by all the men.

None of the questions caused offence or embarrassment, all questions were understood. There were some occasions when they all talked together, despite the facilitator having set ground rules at the beginning of the interview and requesting that they not speak over each other because of the difficulties in transcribing.

The only issue with the time was due to a previous session (second generation men) running over-time. The men did all stay to the end though and were happy to finish the session, but because of the late running of the interview it was coming up to prayer time and so the last few questions had to be rushed.

5.6.1.5.4 Summary of amendments to interview topic guide

- The "informed consent form for project participants" and the "informed consent form for project participants for audio recording of interviews" were combined into one consent form for the second phase of the research, the one-to-one, in-depth, semi-structured interviews.
- The ordering of the demographic questions at the introduction if the interviews re-arranged as recommended.
- The question re: number of dependent children living at home moved to after the question on age.
- Question added re: number of children and place before question re: number of dependent children.
- Question added re: 1st language and others spoken.
- An alternative option included of weekly income versus annual (if later unknown)
- The format of the section on benefits amended to improve clarity.
- Additional prompts added to interview topic guide plus two extra lines of inquiry added based on themes emerging from pilot interviews.

5.6.1.5.5 Summary of amendments to the interview process

- It was to be made explicit to the participants, when explaining the project, that it would not be an education session. As many of the participants from the pilot interviews were very interested in further information about healthy eating and diabetes however, the Chief Investigator provided the facilitators with bilingual literature (Bengali and English) explaining 'what is diabetes' and on general healthy eating which was to be given to the participants following the one-to-one in-depth interviews.
- An education session on 'healthy eating' was organised for the women attending the Jagonari centre following a specific request. This was done following discussion with the Head of Dietetic Services for Barts and The London NHS Trust and the Dietitians based at the Mile End Diabetes Centre who felt that as this fell within their usual remit and had conducted sessions previously, that this was an appropriate request. The session was not conducted by the Chief Investigator to avoid resulting in any potential bias to the study, but rather by the Bengali link worker from the diabetes centre.

5.6.1.6 Phase II: One-to-one semi-structured interviews - community participants

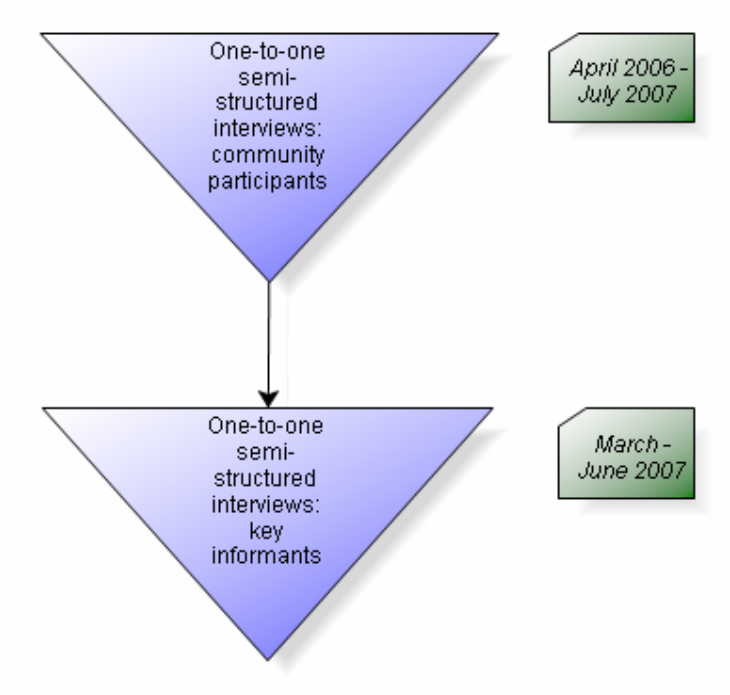


Figure 5.3 Timeline: Phase II interviews

One-to-one semi-structured interviews were carried out with members of the Bangladeshi community using the refined interview topic guide following the phase I paired interviews. This method was chosen to enable the interviewer to have a guide to the types of questions to be asked while at the same time enabling flexibility in the sequence of questions, and the latitude to ask further questions in response to replies that appear significant (Bryman A 2004). This approach also allowed issues and topics to be explored in detail but still be shaped by a defined set of topics that have been informed by the review of literature (Pope C & Mays N 1995). A more structured approach was not seen as fit for purpose as this type of interviewing usually uses closed questions, with fixed choices, which are not suitable for an exploratory study (Bryman A 2004).

The interviews were conducted by the facilitators from Nania and as noted previously all semi-structured interviews have been recorded with participants' consent and transcribed verbatim, being translated into English during the transcription process for those interviews completed in either Sylheti or Bengali. Verbatim transcription, while time consuming and expensive, was felt essential to enable the Chief Investigator to be fully familiarised with the data which was especially important as the Chief Investigator was not present during the interviews. Full transcription also enabled the subtle nuances in the data to emerge and allowed a complete account of the exchanges between the interviewer and interviewee as well as allowing the use of the interviewees own words in the analysis. Furthermore by undertaking verbatim transcription the data is available to other researchers for secondary analysis for either validation purposes or to reuse in ways not intended by the original researcher (Bryman A 2004). In addition to providing verbatim transcriptions of the interviews, to further assist with the

analysis of the data the facilitators kept field notes according to a defined method, as noted previously.

Local custom and practice such as prayer time, Ramadan and the Hajj pilgrimage were taken into account by avoiding these times to recruit or interview the Muslim community participants. For this reason, it was necessary for the interviews with members of the community and key informants to occurr simultaneously to avoid loss of valuable research time.

5.6.1.7 Phase III: Multiple Pass Dietary Recall

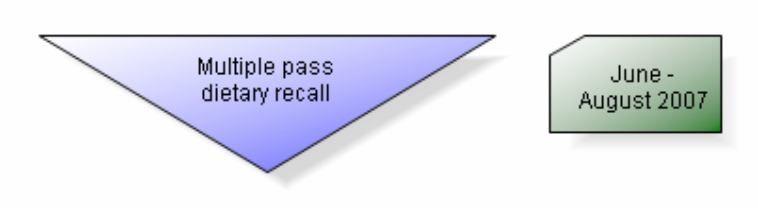


Figure 5.4 Timeline: Phase III

A version of Multiple Pass Dietary Recall was used to assess the dietary intake and eating patterns of the community participants. Whilst efforts were made to quantify the amounts of food and drink consumed during the questioning, any indications of amount are an estimate, as participants were not asked to keep weighted records. It was planned for the participants will be contacted by telephone, by the facilitator, over a period of 3 days (2 week days and one weekend day) and asked to recall all food and drinks consumed over the previous 24 hours, including the time and place meals and snacks were consumed. A few of the participants preferred the facilitator to undertake the process face-to-face rather than over the telephone as is noted shortly. The *multiple pass* refers to the steps involved during the interview to allow revisiting and checking of the dietary information" (Wrieden W, Peace H, Armstrong J and Barton K 2003, p4). Figure 5.5 provides an illustration of the multiple pass recall format. At the end of the session, participants were also invited to reflect upon whether there were any positive or negative aspects to the procurement of the food during the previous 24 hours, for example, access, transport, availability.

Multiple Pass Recall was chosen due to the relatively low respondent burden compared to other dietary assessment methods, the ability to be administered via telephone and the improved precision compared to a standard 24 hour recall (Basiotis PP et al. 1987;Tran K M et al. 2000). Similar results have been found whether the recall is administered by phone or in person (Tran K M, Johnson R K, Soultanakas RP, & Matthews D 2000). If the dietary recall occurs over one 24-hour period only, it difficult for this single day to describe the pattern of the usual diet (Johnson R K, Soultanakas RP, & Matthews D E 1998). Short-term memory only is required for the 24 hour recall method , and if the calls are not announced to the participants, the diet has not been found to have changed (Johnson R K 2002). Written food diaries were not chosen due to the low levels of literacy (Wrieden W et al. 2003) within this community, especially first generation participants, together with the large burden placed on the participants to adequately complete the records (Johnson R K 2002). A Food Frequency Questionnaire (FFQ) was

excluded following advice from lay members of the Bangladeshi community who felt that this was an inappropriate tool which would be poorly received. Furthermore, a FFQ would also need to be validated, and as a new tool would need to be developed for use with the Bangladeshi population this was deemed beyond the scope of this study (Wrieden W, Peace H, Armstrong J, & Barton K 2003).

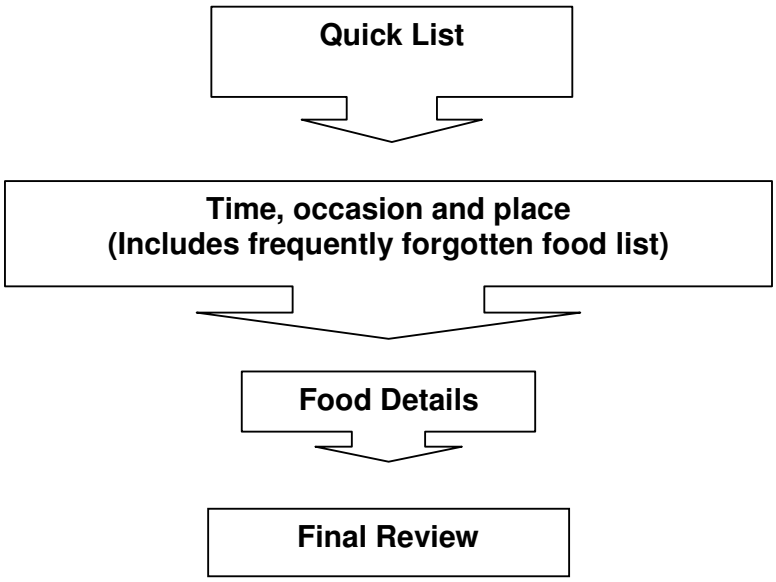


Figure 5.5 Multiple Pass Recall Format

To assist in the development of the interview guide for the MPR, a basic *Bangladeshi food basket* was developed (see appendix 11 for a copy of the Bangladeshi Healthy Food Basket Survey), with the assistance of a 3rd year Dietetic student[37] from London Metropolitan University, and in conjunction with the local Bangladeshi community in Tower Hamlets. The food list for the Bangladeshi community developed during the Sandwell project (Dowler E, Blair A, Rex D, & Grundy C 2001) was used as an initial guide for the food list, with further assistance being gained from the Midlothian Social Inclusion Forum food basket survey toolkit (Lloyd S, Madelin T, & Caraher M 2009b). This process helped to ensure that the prompt lists for food items and portion sizes on the topic guide more closely reflected community dietary habits.

A copy of the Multiple Pass Recall topic guide can be found in appendix 10.

5.7 Methods of Data Collection: Key Informant Interviews

The key informants selected where chosen to broaden and add depth to the information received from the community participant interviews in relation to food and eating and, gain to an insight into what they view as the key policy issues and drivers for this community, together with the issues and challenges for professional practice, thereby assisting in drawing closer to the implications for policy, public health strategy and nutrition education. Taking into account these

[37] The student was second generation Bangladeshi and was able to speak Bengali and Sylheti. The student had volunteered for the project to gain work experience prior to the commencement of her final student placement.

considerations the key informants chosen were those that worked with members of the Bangladeshi community in variable capacities as well as those that could provide more of a strategic policy view at a local, regional and national level. Section 5.7.2 provides details of the characteristics of the key informants.

5.7.1 Recruitment

The key informant participants were recruited by the Chief Investigator in all instances except for the three who were recruited by the facilitators from Nania. These later three Key Informants were the male and female Imams. This was decided following discussion with the Nania facilitators and contacts at Social Action for Health (SAfH) who felt that this would be more culturally appropriate.

The Imams, both male and female were recruited through Tower Hamlets mosques. The facilitators accessed the Imams through their own contacts within the Mosques and approached the Imams directly as they had done for recruiting the community participants. The remainder of the key informant interview participants, recruited by the Chief Investigator, were through contacts obtained through SAfH, PhD supervisors and own links within Barts and The London NHS Trust and Tower Hamlets Primary Care Trust. These key informants were recruited by firstly sending an email of introduction, followed by a formal letter of invitation together with the explanatory statement and consent form. It was requested that if they agreed to participate in the research that they replied indicating their intentions first via email and then returning the completed consent form. It was requested that the consent be sent back in two weeks time from receival of the letter; a specific date was provided for each key informant. If no response was received a follow-up email was sent by the Chief Investigator, on two occasions if necessary, requesting that they advise whether or not they would be able to participate and if so for the signed consent form returned. Once the key informant had agreed to participate they were contacted once again to arrange a time, date and location at their convenience.
In total, twenty four people were invited to participate in the key informant interviews, with nineteen acceptances (seventy nine per cent). The remaining five declined by non-response. Those that did not respond were from the following groups:

- Public health x 2 (both within Tower Hamlets PCT)
- General Practitioner x 1
- Dietitian x 1 (national level)
- Community project organiser x 1

Additionally, in four instances the people contacted did not feel they were the best person to participate in the study[38]. Where this was the case, snowballing was used whereby the initial contact was asked if they could suggest alternative contact who they felt would be more appropriate. In all cases this was possible and the alternative contact agreed to participate in the research.

[38] Those providing alternative contacts were a primary care nurse, a non-statutory community organisation, a national policy advisor and a regional public health director.

The key informants have been divided into four groups, using the Beattie Model of Health Promotion (Beattie A 1991) (see figure 5.5) as an organising device. The key informants were grouped based on their professional role, to reflect the multi-level governance within public health, and provide an analytical model to enable the approaches of the various stakeholders to be assessed and contextualised. This holistic model of health promotion takes into account the various approaches and the potential for partnership working, from the government who sets the legislative, resource and policy framework to individuals and communities who also play an active role, in order to identify and understand the place of the key informants and their role in obesity and diabetes prevention policy and the development of public health strategies.
While it is recognised that it would have been of benefit to also include key stakeholders from various parts of the food retail sector such as managers of grocery stores, supermarkets, take-way stores and markets this was beyond the scope of the research in terms of both time and resources.

In addition to the information on the food promises outlined in the study by Lloyd et al (Lloyd S, Madelin T, & Caraher M 2009a), the following advice with respect to planning was provided by Legal Services for the London Borough of Tower Hamlets:
"The Council's planning policies contain strategic planning polices to ensure the provision of a range of shops and services (CP 15) and policies in relation to retail shopping, town centres and the evening and night-tome economy (policies RT1 to RT6). Nevertheless, there are no specific policies or restrictions limiting the number of food outlets or their location. However, this is not surprising, since considering each case on its own merits is a key factor in determining any planning application". (Bryman A 2004)

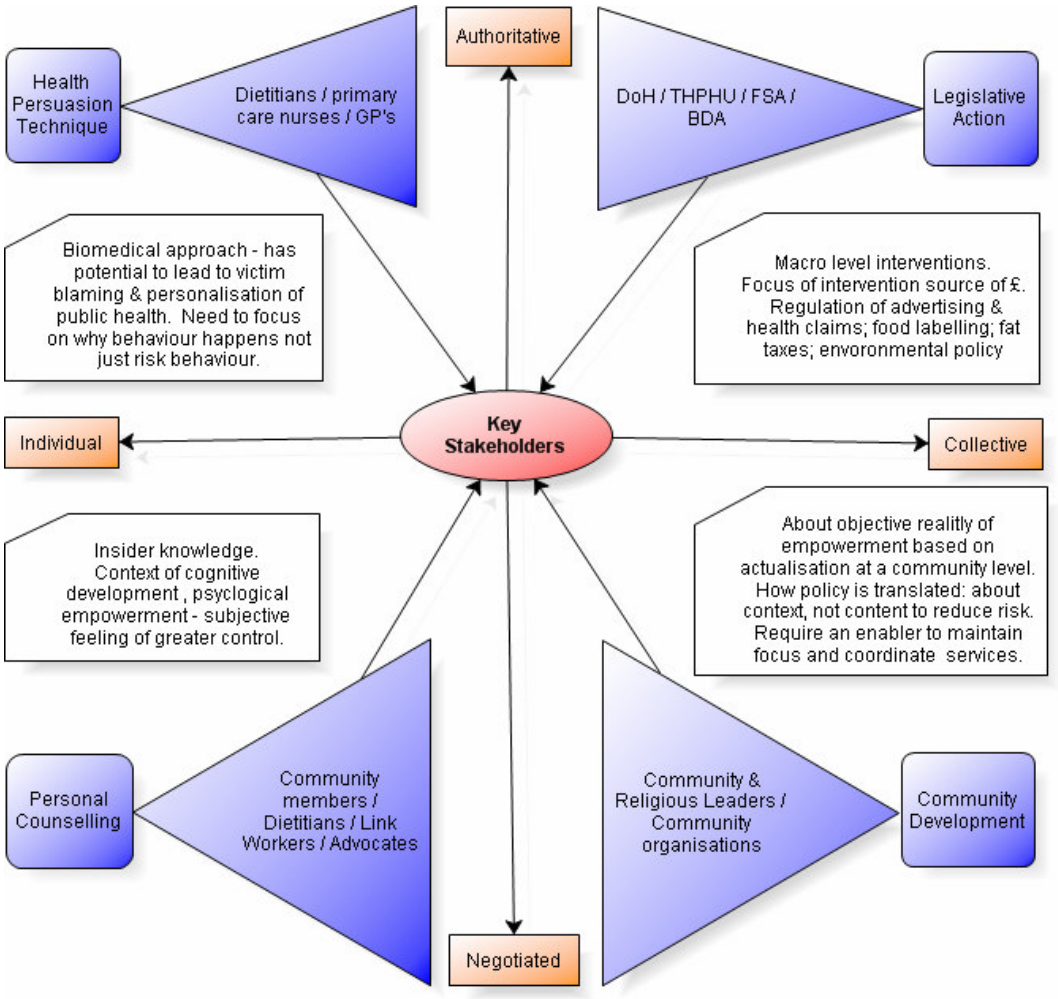


Figure 5.6 **Four Dimensions of Key informant interviews based on the Beattie Model of Health Promotion** (Beattie A 1991)

5.7.2 *Characteristics of Participants: Key Informant Interviews*

Demographic information collected for the key informants was limited to a small number of key areas as identified in table 5.15 as it was not relevant to collect all of the same information as for the community participants with the key informants themselves not being the focus of the research.

Attribute	Attribute properties
Gender	Male Female
Position	*Free text*[39]
Country of origin (Ethnic background)	Britain, Bangladesh, other
Educational qualification (Highest achieved)	None GCE O level or CSE GCE A level Degree or technical or professional or vocational Other
Length of time living and/or working in Tower Hamlets (If applicable)	*Free text*

Table 5.14 Attribute properties for key informant interview participants

The table to follow outlines the characteristics of the key informant participants. As with the community participants codes have been used and their actual position has been generalised to a broad title in order ensure that they have been anonymised. The country of origin has been provided and where relevant reference will be made to this in the discussion of the results. For those key informants of Bangladeshi origin[40], fifty percent, they will be able to bring the knowledge based on both their professional role as well as that from an 'insiders' perspective. The key informants have also been grouped based on the four dimensions of the Beattie Model as previously discussed, see key below for following table 5.15.

The anonymised code can be read as:

PII = phase II

KII = key informant interview

The number given is the sequence of the interview

The initials represent the individual

Key: based on the four dimensions of the Beattie Model (as per figure 5.5)

Legislative Action

Health persuasion technique

Personal counselling

Community development

[39] 'Free text' denotes no stipulated options provided, informants own words.

[40] It was not the intention when selecting the key informants to choose those of Bangladeshi origin. This has happened by chance and is a consequence of the position they hold within Tower Hamlets.

Key Informant	Position	Country of Origin	Educational Qualification	Gender	Time living / working Tower Hamlets
PII KII 02 NM	National Diabetes Policy (Non-statutory)	Britain	Degree / professional /technical / vocational	Female	Not applicable
PII KII 08 PR	FSA – nutrition division	Britain	Degree / professional /technical / vocational	Male	Not applicable
PII KII 11 KL	Public Health PCT	India (UK born)	Degree / professional /technical / vocational	Male	1 ½ years
PII KII 13 VS	Public Health Regional	Britain	Degree / professional /technical / vocational	Female	Not applicable
PII KII 01 DT	Public Health Dietitian National	Britain	Degree / professional /technical / vocational	Female	Not applicable
PII KII 05 TA	GP	Bangladesh	Degree / professional /technical / vocational	Male	15 years
PII KII 10 MK	Community nurse	Bangladesh	Degree / professional /technical / vocational	Female	5 years
PII KII 14 AN	Food Policy Dietitian National (Non-statutory)	Britain	Degree / professional /technical / vocational	Female	Not applicable
PII KII 09 ER	Dietitian – weight	Britain	Degree / professional	Female	30 years

Key Informant	Position	Country of Origin	Educational Qualification	Gender	Time living / working Tower Hamlets
	management		/technical / vocational		
PII KII 15 WP	Community Dietetic Manager	Britain	Degree / professional /technical / vocational	Female	5 years
PII KII 03 RY	Community Nutrition Link Worker (NHS)	Bangladesh	Degree / professional /technical / vocational	Female	15 years
PII KII OM SMA[41]	Elder	Bangladesh	Other	Male	30-40 years*
PII KII 04 LC	Community interfaith co-ordinator	India (UK born)	Degree / professional /technical / vocational	Female	7+
PII KII 06 NC	Community Project manager (Food & health)	Bangladesh	Degree / professional /technical / vocational	Male	6+
PII KII 07 JL	Community Project manager (Food & health)	Bangladesh	Degree / professional /technical / vocational	Female	16 years
PII KII 12 SP	Community Project manager (Food & health)	Africa – Gujerati (Australian born)	Degree / professional /technical / vocational	Female	4 years
PII KII 16 SR	Community Healthy Eating Team Lead	Bangladesh	Degree / professional /technical / vocational	Female	7 years
PII KII Imam AHK	Imam	Bangladesh	Degree / professional	Male	10+ years

[41] OM SMA was originally interviewed as a community participant. See section 5.6.1.3.1

Key Informant	Position	Country of Origin	Educational Qualification	Gender	Time living / working Tower Hamlets
			/technical / vocational		
PII KII Imam AAB	Imam	Bangladesh	Degree / professional /technical / vocational	Male	6 years
PII KII F Imam LN	Imam	Bangladesh	GCE O level or CSE	Female	10-20 years *

* Time living in Tower Hamlets extrapolated from arrival age and current age

Table 5.15 Characteristics of the key informant participants

5.7.3 Phase II one-to-one semi-structured interviews: key informants

One-to-one semi-structured interviews were carried out with the key informants. The interview topic guide was expanded to include policy specific questions and those specific to diet and food choices refined. The interview topic guides used for the key informant interviews, while having the same overall structure and general frame of reference had varying degrees of emphasis and pitch due to the wide range of experiences brought by each of the key informants. See appendix 10 for copies of the topic guides.

As with the community participant interviews, a semi-structured approach was chosen for its flexibility for instance not having to follow questions exactly as outlined in the topic guide, and the ability to ask additional questions if the interviewer picks up on things said by the interviewee (Bryman A 2004). All interviews were conducted by the Chief investigator except for the three with the Imams which as noted, were conducted by the same facilitators from Nania who completed the community interviews. Again, as with the community interviews, all of the key informant interviews were recorded with the participants' consent and transcribed. All of the interviews, except those with the Imams, were transcribed by the Chief investigator. For the majority, the interviews were transcribed verbatim unless otherwise noted in the transcript. As described previously, verbatim transcription has a many benefits although is an extremely time consuming process. The time taken is increased by the constant repetition of the recording that is necessary to check the quality of the transcription (Bryman A 2004), further complicated when listening to strong accents which increases the chance of mishearing words. Where the interviews were not transcribed verbatim this was due to the discussion 'going off topic' and therefore not being relevant, or where there was hesitation in the speech. In these cases there was little point in transcribing material that would not be fruitful during the analysis (Bryman A

2004). The interviews with the Imams were transcribed verbatim and where required translated into English by the facilitators.

5.8 Data Analysis and presentation of results

5.8.1 Semi-structured interviews

The computerised data analysis software package NVivo 7.0 was used to assist the analysis of the interview transcripts. Firstly the transcriptions from all of the interviews: paired interviews from phase I and the community and key informant one-to-one interviews from phase II were inputted into NVivo 7. This totalled to forty five transcripts amounting approximately 338 689 words of transcript material with forty four percent coming from the combined community interviews (phases I and II) and fifty six percent from the key informant interviews. The analysis process involved a systematic examination of the text, both interview transcripts and the field notes, by identifying and grouping emerging themes and coding[42], classifying and developing categories (Pope C & Mays N 1995). A process of 'open coding' was used initially with the phase I interviews to form the basis of the index categories[43], whereby each line of the data was examined, and potential themes identified using real examples from the interview transcript text. 'In vivo' coding was also employed where appropriate; a process where the themes and categories developed use the terms of the participants themselves (Denzin NK & Lincoln YS 2000). The emergent themes from this early coding formed the analytical framework allowing for the repeated analysis of the transcripts from phase II of the research.

The transcripts were coded as soon as possible following receival of the transcripts from the facilitator[44] or completion by the Chief Investigator, with each interview being coded separately before looking at the common themes and the patterns emerging across all of the data sources. A constant comparative – iterative - method was employed where each category was searched for in the entire data set, all instances being compared until no new categories were identified. The framework continued to be modified, where necessary, in light of the findings from subsequent interviews (Petchey R, Williams J, & Carter Y 2006) and modifications were made to the topic guide to include the new themes enabling the researcher to follow emerging themes in subsequent interviews, focusing further data collection (Denzin NK & Lincoln YS 2000), until no further (new) themes arose and thereby reaching a point of theoretical saturation. The repeated analysis facilitated the Chief Investigators interaction with the data and assisted in ensuring that the analysis was grounded in and emerged from the data (Petchey R, Williams J, & Carter Y 2006;Pope C & Mays N 1995). Focused coding used the initial codes that reappeared frequently to sort the large amounts of the data, allowing the data to be defined and categorised (Denzin NK & Lincoln YS 2000). The coding emerged both deductively from pre-

[42] Coding is a type of indexing due to the exploratory nature of the research.
[43] Termed 'tree nodes' in NVivo
[44] The delays in receiving the transcripts from the facilitators at times resulted in groups of transcripts being received at one time rather than following each group of four interviews (male / female, first / second generation) as originally planned. The reduced contact was as a consequence of personal issues for the facilitator and while this did result in significant delays to the study did not impact on the quality of the work undertaken.

existing concerns, questions and theory of the factors influencing food choice, and inductively from the data itself.
Presentations were made to at PhD meetings and to the Chief Investigators supervisors during the data collection and analysis phase of the project to assist in refining the analytical framework. Inter-rater reliability checking of coding from the interview transcripts was used to assess the degree to which a different analyst gives consistent coding of the same data. This was performed on an interview from the pilot study by the chief investigators first supervisor to determine the level of agreement, and enhance credibility of the data analysis. A high level of agreement was found. A further interview was checked from the one-to-one interviews in Phase II of the study. The two interviews checked represented a 5% sample.

With respect to the meal pattern data obtained from the semi-structured interviews, further to the themes emerging from the data with respect to types of foods eaten, meal time structure etcetera, a model for adaptation to a new food pattern developed by Kocturk-Runefors (Kocturk-Runefors T 1991) was used to assist in analysing the specific dietary changes from the traditional food habits to those incorporating new foods and tastes available within the host culture; in this case, Tower Hamlets east London. This model was developed to enhance the understanding of the structure of food combination patterns in different cultures together with the process of adaptation to new dietary patterns (Kocturk-Runefors T 1991), and has been tested in a study of changing food habits amongst Pakistani immigrant women and found to be useful to structure the various foods and changes that occurred (Mellin-Olsen T & Wandel M 2005). According to this model the food groups which compose a meal are divided into two hierarchical groups: basic foods, comprising of staple[45] and complementary foods[46] and which are considered most important and a second group, the accessory foods[47]. Basic foods can form a dish in its self and it is not possible to substitute a staple food without changing the name of the dish and its identification with a specific tradition and culture, for example rice cannot be substituted by pasta. Basic foods are fundamental in order to maintain kitchen traditions. Accessory foods however, while they enhance the taste and presentability of the basic foods cannot be served alone in emergency situation as a dish, such as ghee or spices, and they may be substituted without threatening the kitchen tradition, although the dish may be compromised to a degree. At the most accessory foods may be considered a snack such as with fruit or nuts. (Kocturk-Runefors T 1991)

Food is a component of culture that is easily transportable to a new country provided the basic ingredients are available even if it is impossible to strictly adhere to old food habits. Changes to traditional foods tend to begin with the accessory foods, most likely as the cultural identification with these foods is not as strong and also because they are able to be substituted. Figure 5.7 illustrates how food changes proceed in a continuum with taste and identity forming the two extreme poles.

[45] The staple is usually carbohydrate rich with a mild/neutral taste
[46] Complementary foods consist of four groups: meat/fish/eggs, milk/cheese, vegetables, legumes
[47] Accessory foods include fats, spices, nuts, sweets, fruits and drinks

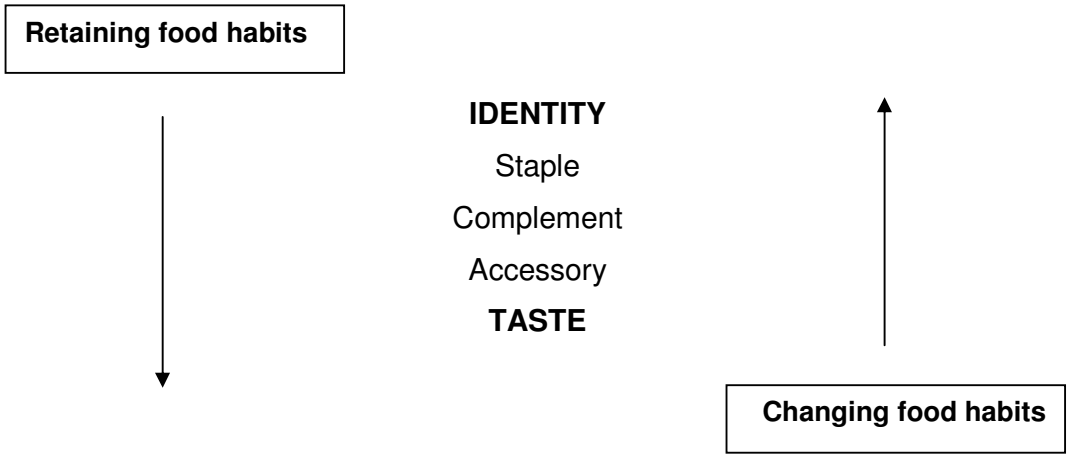


Figure 5.7 Food selection scheme (Kocturk-Runefors T 1991)

In addition the model for adaptation to a new food pattern, the PRECEDE (Predisposing, Reinforcing and Enabling Constructs in Educational Diagnosis and Evaluation) model (Mellin-Olsen T & Wandel M 2005) was used to summarise the concepts of factors influencing the changes in food choices within and between the first and second generations. Predisposing factors provide the motivation or rational for a behaviour, for example, knowledge, attitudes, values and perceptions. Reinforcing variables provide the incentive for a behaviour to be perpetuated or terminated such as social support, rewards, praise or punishment. And, enabling factors support a desired behaviour change by reducing the barriers to action such as access, costs and availability of services and facilities. (Gielen A C & McDonald E M 2002;Mellin-Olsen T & Wandel M 2005)

5.8.1.1 Benefits of NVivo versus paper in the analysis

Coding and recoding is largely descriptive however the flexibility of NVivo allowed for the iterative development of categories and subsequently themes from a large volume of data, removing some of the manual tasks associated with analysis such as sorting, arranging and retrieving the information thus making the process faster and more efficient (Bryman A 2004). This allowed a more interpretive approach to the data with ability to explore patterns and relationships within the data such as by comparing multiple pairs of items as specified by the researcher, in ways that the researcher specifies (Food Standards Agency 2007), thus enabling meaningful conclusions to be drawn. The conclusions are supported by illustrative quotes which capture the essence of the themes emerging from the data.

5.8.2 *Multiple Pass Dietary Recall*

Triangulation is an important technique in proving the validity of qualitative studies. That is, comparing data obtained by one method with similar data obtained by another method (Denzin NK & Lincoln YS 2000). In this case, the data from the community interviews, with respect to dietary patterns and changes within and between the first and second generations of British Bangladeshis, has been assessed against the data from the Multiple Pass Recall to check for consistencies and inconsistencies between the two methods of reporting.

The detailed dietary information obtained from the Multiple Pass Dietary Recall has been thematically assessed by grouping the foods in four ways:

- The overall meal pattern including number of hot meals and snacks per day, time taken and whether they represented a *Traditional* Bangladeshi and/or a *Western* pattern;
- A summary of the meal location, such as home or work;
- Details of the food choices according to the Food Standards Agency Eatwell plate (Food Standards Agency 2007) (see figure 5.8).
- The dietary changes that have occurred within and between the generation from traditional Bangladeshi foods to new choices have been structured using the model developed by Kocturk-Runefors (Kocturk-Runefors T 1991) as was done for the information received from the semi-structured interviews and described in section 5.8.1.

The data has also been further separated into gender and generation in order to further illuminate patterns emerging between 1st and 2nd generations and/or between men and women. The results shall be presented in chapter seven.



Figure 5.8 **The eatwell plate** (Food Standards Agency 2007)

5.8.3 Reflexivity

The nature of qualitative research means that the researcher needs to consider what their role is in the research based on nobody ever really being a neutral observer. The Chief Investigator will therefore reflect on their actions and values during the research, both in the production and analysis of the data. Their own cultural, political and social context will be reflected upon to understand what this brings to the research (Flick U, von Kardorff E, & Steinke I 2004;Temple B & Edwards R 2002).

With respect to reflexivity in cross/trans-cultural research, the interpreters will also bring their own assumptions and concerns to the interview and the research process, consequently there will be 'triple subjectivity' in that there will be interactions between the research participant, the interpreter and the researcher (Temple B & Edwards R 2002). For rigorous reflexivity in cross/trans-cultural research therefore, it will require explorations of the social location, beliefs and values of the interpreters as well as evaluating their understanding of their relationship between the researcher and the research participants. In order to accomplish this, the facilitators from Nania have been asked about aspects of their own life experiences, their relationship to the Bangladeshi community in Tower Hamlets, and what issues they regard as important in relation to the topics being addressed in the interviews and the overall subject of the research project (Temple B & Edwards R 2002). This enables the facilitators to be more visible and accountable in the research process, in the same way as the Chief investigator will seek to be explicit about their own social and political position.

The outsider/insider status of the Chief Investigator and the facilitator has also been considered within the research process, that is, how this is influenced by our own personal experiences, our 'race', gender and other physical characteristics in ways in which we may have no control (Bhopal K 2001). For example, the class positioning of the facilitator compared to the participants, and the effect of ethnicity, class, professional status and gender between the Chief Investigator and the interpreter. As such, how both the researcher and the facilitator produce borders between cultures and identities needs to be scrutinized for this qualitative research, just as it would be for translation studies (Temple B & Edwards R 2002).

5.8.4 Presentation of Results

As has been discussed in section 5.5, this research has been set in a qualitative methodology in order to establish the subjective, in-depth perceptions of the 'information rich' respondents from within the Bangladeshi community, as well as the key informants who were able to step out and provide more of panoramic view, about a complex topic. The presentation of the findings will be orientated very specifically to the aims which have driven the research. There are no instruments to quantify the type of information elicited from qualitative inquiry therefore the results shall be presented in a descriptive rather than numeric form with illustrative quotes being provided to capture the essence of the theme presented. The implications of the findings shall

be reflected upon in the discussion chapter therefore the results will be presented with little commentary in terms of the academic literature or implications. Any commentary that is provided will be done so in such as way as to lead into the final discussion, pointing forward to themes that shall be taken up (Bryman A 2004).

Shorthand terms have been used to identify the data source while ensuring the anonymity of the respondent but at the same time allowing the reader to decipher between individual respondents and refer to the respondent characteristics described in the methodology chapter 5, if desired. A descriptor is also provided to allow the reader to quickly contextualise the source. For example, if a code reads (*PII OW 07 – first generation women, unemployed*) this would be interpreted as:
PII = Phase II
OW = older woman
07 = sequential number of interview

The main finding from the semi-structured interviews will be presented in chapters six and seven.The presentation of the results from the Multiple Pass Dietary Recall will be incorporated in chapter six.

5.9 Significance of frequency sources and references in the coding

Further analysis was conducted on the interview data to review the significance, or not, of the coding density in relation to the number of sources and the total number of references per code. 'Sources' refers the document from where the data was drawn, such as the 'interview transcript' or 'facilitator field notes', whereas the 'references' are the number of sections of the document that were coded to each defined code and is an indication of the amount of discussion in relation to a theme. Extremes were chosen to provide examples, that is, a high number of sources and references, a low number of sources and references, and a low number of sources with high number of references per code.

See section 5.8 for details of the analysis process.

Example 1
Code: '*wastage*'
5 sources:
- one key informant, 1st generation female Bangladeshi, community development
- two first generation men
- two first generation females

8 references
Source: first generation women
One of the first generation women noted the issues of potential wastage with respect to her children. Firstly, expressing concern that fruit would be left to "go off" by the children and

secondly that the children want fresh food cooked for each meal. The response came as a result of a question regarding healthy and unhealthy foods and another about the frequency of cooking. Another first generation woman noted that food would go to waste if she accidently bought food that wasn't halal and her children advised her to do so after being questioned about the care taken to choose halal foods.

Source: first generation men
For the second generation men, one noted the food wastage that resulted from cooking a large number of dishes to 'honour' guests which he considered excessive, whilst the other noted that food was unacceptable in Islam. The answer was given in response to a question regarding the purchase of food for pleasure or social importance.

Source: key informant (1st generation female Bangladeshi, community development)
The key informant noted that many women gain weight due to eating their children's leftovers, not wanting to have the food go to waste.

The answers were in response to questions regarding what charactarises an English versus Traditional diet, and reasons for parents allowing their children to regularly consume Take-away foods.

Example 2
Code: 'Burden of Disease / Biology'
3 sources:
- One Public Health Dietitian
- One National Policy Dietitian
- One General practitioner from Tower Hamlets

7 references
The higher prevalence of Type 2 diabetes and the genetic predisposition in the Bangladeshi community was highlighted by the three key informants, coupled with the impact of a sedentary lifestyle and dietary change.

The Key Informants were responding to question relating to considerations for prevention strategies, why obesity and thus diabetes has become a dominant issu and if there are specific issues for ethnic minority communities. The Community participants weren't asked this line of questions.

Example 3
Code: '*traditional diet*'
47 sources:
- The community participants were mostly first generation males and females and to a lesser extent the second generation males and females. All contributions however significant.

- The key informations responding were Dietitians (clinical, public health and policy), Community Developments workers (Bangladeshi) and Imams.
- Facilitator notes and observation notes from pilot interviews.

223 references

Source: Community Participants:
The first generation men and women discussed the difference between the traditional foods eaten in the UK versus the 'truly' traditional food consumed back in Bangladeshi. Truly traditional food were considered to be lower in oil and ghee, included larger proportions of fresh vegetables, lentils, fruit and fish and less meat; the opposite being true in the UK. All of the first generation emphasised the importance of including traditional foods every day with respect to generic rice and curry meals, also noting that their children were more likely to want to start to incorporate 'English foods.

The second generation men and women explained that whilst they also continued to enjoy traditional foods such as rice and curry, it was different to the preferences of their parents and they were more likely to modify recipies and include alternatives. The second generation preferred the UK style Traditional diet versus that taken in Balgladesh.

The responses were given in relation to questions regarding: considerations when shopping; health aspects of their diet; methods of cooking; foods that children prefer; type of food eaten when at work; how the family eats; frequency of eating Bangladeshi foods; importance of eating traditional foods; use of convenience foods and a direct questions about preferring foods from Bangladesh.

Source: key informants
With a couple of exceptions, the key informants responding to this line of questioning were predominantly Bangladeshi themselves although from a variety of occupational backgrounds within the community, for example, Community Development, Nurse and a General Practitioner. The Bangladeshi key informants tended to reiterate what was explained by the community participants, highlighting the difference in traditional diets in the UK versus Bangladesh, again noting the later was generally healthier as there was less of the 'feast' foods. They also noted that overall, the children were beginning to adopt more Western diets. The non-Bangladeshi key informants also felt that current Bangladeshi diets were quite high in fat, especially saturated fat, and were more meat based. They also noted the same trend amongst the second generation to a more westernised diet although this tended to be seen as an addition rather than an alterative, as well as the potential loss of cooking skills amongst the second and subsequent generations.

As with the community participants, responses were given in relation to questions about the importance of traditional diets, differences in the traditional diet in the UK versus Bangladesh;

what is important when making food selections and what generally characterises a traditional diet. There were also a number of probing questions to gain further depth.

Source: Facilitator and observation notes
NB: Only the facilitator for the second generation men's paired interview didn't have a comment relating to 'traditional diet'.

The immediate view of the interview facilitators and observers was that the first generation men and women had predominantly traditional diets consisting of a regular intake of rice and fish. The women in particular rarely ate 'new' foods although the men may occasionally have some fast food if out. The unhealthiest aspect of the diet was considered to be oil which corresponds to the responses from both the first generation women and second generation men. The second generation women and men were also considered to have a large intake of traditional Asian food although they had a preference to that prepared in the UK versus Bangladesh, unlike the first generation respondents whose palate was more accustomed to the method of preparation in Bangladesh.

Example 4
Code: Religion / Faith
41 sources: The community participants responding were predominantly the first and second generation Bangladehsi men. The key informants responding were across a range of professions, both Bangladeshi and non-Bangladeshi.

182 references

Source: community participants
The conversation with the community participants in relation to religion tended to centre on the concept of halal and haram foods, including where to purchase. For example, whilst halal meats could be bought in some supermarkets they were not trusted like the Bengali butchers. Similarly, many restaurants weren't trusted and some take-away establishments avoided. The importance of good, healthy food, in Islam was also highlighted; to have unhealthy foods, such as some take-away, being considered un-Islamic. The second generation men mentioned Zam Zam water, dates and honey in relation to religious tradition. There was an occasional mention of the barriers women face to being able to exercise due to purdah.

The reponses were in relation to questions around what is considered important when making food choices, specific health beliefs and effect of religion on food purchasing habits.

Source: key informants
The majority noted the need to choose halal foods, as well as the modesty considerations for physical activity, as was discussed by the community participants. The tendency towards high fat and high sugar foods to break the fast during Ramadan was considered a health issue by two of the Community Development workers.

A few also noted that the second generation Bangladeshi's tended to be more conservative in their religious beliefs, for example, the young women being more likely to wear a Burka which has led to some polarisation in religious views within the community and barriers with respect to lifestyle choices. One of the Imams also emphasised the difference between Islam and cultural tradition; noting that within Islam, health, food and fitness were integral to their faith. One of the Imams, when specifically questioned about food in Islamic traditions, noted the importance of honey, dates and Zam Zam water.

The reponses were in relation to questions such as considerations for preventions strategies and access to facilities for physical activity, what is considered important when making food choices, traditional versus western foods and Islamic traditions in relation to food.

Example 5

Code: 'Policy'

38 sources: Within the broad theme of 'policy', the vast majority of the discussion came from the Key Informants; with those having a public health and/or policy background proffering the most detailed responses although all had significant input.

497 references

The key informants were often very articulate, especially when the questions related to an area of expertise, allowing for many detailed and insightful answers.

The responses related to a range of questions relating to Corporate / Government and Personal roles and responsibilities, ethical debates relating to public health policy, the need for evidence in relation to policy, 'who' influences policy and who holds the power, the optimal default and what has been the tipping point for current obesity related policy.

Whilst the community participants were asked a limited number of questions broadly relating to policy, for example around areas of responsibility and current public health programmes, responses tended to be quite limited.

5.9.1 Summary of significance of coding frequencies

As a general rule, the greater the number of 'sources' the greater the heterogeneity of the respondents, that is for example, first and second generation, male and female participants all having similar input. The greater number of 'references' resulted from a larger amount of discussion on a particular topic. In the vast majority of cases open questions were used to elicit the responses.

Where there were fewer 'sources', the respondents were more homogeneous, for example majority one generation and/or gender and the response often reflected a new emerging theme that was unprompted.

Where there responses tended to be predominantly from the Bangladeshi community, or from the key informant interviews, this tended to be as a consequence of a line of questioning that was more pertanent to that group, as with example four about 'policy.

5.10 Research evaluation

It is important to consider the research process in terms of credibility to establish transferability, appropriateness of the chosen methodology, clarity of analysis approach and overall transparency and to ensure the results are worthy of consideration. This chapter has therefore gone into considerable detail about the way in which the research has been conducted, to provide a comprehensive description of the of the process followed to enable an assessment of integrity, and to assist in validating its potential to contribute to a wider body of knowledge regarding the contextual factors affecting food choice and the nutrition transition in a UK Bangladeshi community.

The epistemological issue of not being able to understand obesity and the development of related conditions such as Type 2 diabetes from a purely clinical, medically oriented view has been addressed by taking a qualitative, research approach, drawing on the disciplines of social science and public health nutriton. This has allowed the Chief Investigator to understand the social realities of the Bangladeshi community, by gaining an in-depth understanding from their lived experiences, and thus answering the questions of who eats what, when and how, and with what effect.

The following two chapters will now detail the findings from the semi-structured interviews held with the Bangladeshi community participants and key informants respectively. The results of the multiple pass dietary recall with the community participants will be incorporated with the information from the interviews with the community participants in chapter six to triangulate the information particularly with respect to dietary choices and eating patterns.

Chapter 6 Research findings: Phase I and II Community Interviews

This chapter will now present the findings from the semi-structures interviews with the community participants from both phase I and phase II of the research. Presenting the data from both the community and key informant interviews together was considered as it would allow immediate comparison when the presenting information based on the same theme but would lack clarity. Separate chapters however will allow the opinions to be built into a wider picture to better enable the examination of the relationship between them.

The data to be presented has been obtained from thirty members of the Bangladeshi community and is the result of twenty four interviews. Four of the interviews were conducted in pairs or groups of three in phase I[48], while the remainder were one-to-one conducted in phase II. All interviews have been divided into first or second generation and/or male or female. The chapter structure is a reflection of the three broad research aims detailed in section 1.2:

- To investigate psychological, socio-cultural, economic and environmental factors influencing food choices and physical activity;
- To investigate the trend in eating and physical activity patterns between two generations of British Bangladeshis, specifically with relevance to the development (and contribution to the prevention) of Type 2 diabetes;
- To consider the potential effect of educational levels, social class, access to housing and employment status, as well as the broader policy context;

The data presented will be descriptive and be accompanied by illustrative quotes from the community participants to capture the essence of the theme in their own voice. It should be noted that for many of the themes there is inevitably a cross-over between them, and therefore not mutually exclusive, however have been separated at this point for clarity with discussion taking place in chapter nine. Further analysis has also been conducted on the interview data to illustrate the significance, or not, of the NVivo coding density in relation to the number of sources and the total number of references per code. This has been illustrated in the form of models where a perceived weighing has been applied to the connectors. These models therefore suggest the importance given to each of the themes from the point of view of the community participants interviewed rather than the opinion of the reseacher. These models will be presented at the end of each of the four broad theme clusters.

The final section of this chapter will go on to provide the findings from the Multiple Pass Dietary Recall which are being used to triangulate and add credibility to the primary data gathered from the in-depth interviews with both community and key informant interviews.

[48] 10 participants in total; 6 first generation; 4 second generation

6.0 Factors influencing food and activity choices

Four broad theme clusters have been identified from the academic literature regarding the factors influencing food and activity choices. Table 6.1 identifies each of these theme clusters together with a brief definition for each. The trends identified within each of these theme clusters through the interviews represent the lived views of the community participants, emerging from interpretations based in the participants own experiences.

Theme Cluster	Definition
Sociocultural influences	Social and cultural influences e.g. cooking practices, shopping, ethnicity, religion, gender roles.
Psychological influences	Attitudes and beliefs towards certain aspects of food, food behaviour and physical activity
Physiological influences	Beliefs around physiological effects of foods and influence of illness.
Environmental influences	Wider determinants of food and activity choices e.g. availability, access and lifestyle

Table 6.1 Theme Clusters: influences on food choices

The results of the interviews relating to each of the theme clusters will be presented in turn.

6.0.1 Sociocultural influences

The specific research questions being addressed in this section are:

- What food practices are currently occurring within the home with respect to cooking and meal time structure?
- What factors influence the nutrition transition between the 1st and 2nd generations, explicitly, the change from *Traditional* diets to *Western* style diets as characterised by increased intake of fat, sugar and processed foods?
- What factors contribute to the maintenance of *Traditional* food practices?
- What factors contribute in both groups to making healthy dietary and physical activity choices?
- Where is health knowledge gained?
- What are the experiences and knowledge about diabetes within the Bangladeshi community?
- What are the barriers to accessing healthy food options?
- What are the implications for health care practice and preventions programmes of the cultural, religious and health beliefs of this community?

In relation to the sociocultural influences on food choices, the community participants were asked open questions relating to what they felt were important factors in their selection of food and drink, where they attain their knowledge of food and health, current food practices within

the home, the consumption of traditional foods, the consumption of foods outside the home and shopping habits.

A wide number of sociocultural influences on food choices were identified by the men and women from the Bangladeshi community in Tower Hamlets who participated in the interviews with differences being seen both between the 1st and 2nd generations and the genders. The similarities and differences shall be noted throughout.

6.0.1.1 Being Bangladeshi

The theme, 'being Bangladeshi' emerged from the interview data in relation to influences that occur as a direct consequence of the Bangladeshi culture as identified by the participants themselves. A number of opinions were provided regarding the importance of social relations; the maintenance, or otherwise, of Bangladeshi diet traditions and the differences between generations; and gender roles.

For the first generation in particular the importance of social relations, by sharing food with family and friends continues, and for the women this is often the only occasion when they consume food that is not prepared by themselves.

"We are Bengalis, so we are immersed in the 'social eating' culture, for sure! We invite and we get invitations." (PII OM 05 FA, First generation male)

There were differing opinions as to the amount of food served with some believing that you honour guests by serving a large variety of food although for others perspective is changing. It was noted that while the sharing of food has always been part of the Bangladeshi culture the 'level' at which this happens now in the UK if far greater than in Bangladesh - there is more food as more is available and greater choice. One first generation older man (PII OM 02 AH) went on to say that Bangladeshi people, distinct from Asian people, are obsessed with food although in this respect this could not be perceived as a common view.

The cultural importance of traditional foods remains for the majority if the participants interviewed although it was to a greater extent in the first generation participants. For the second generation it was the men more so than the women who felt the need to have traditional foods on a regular basis, to an extent this seems to be a consequence of both habit and the fact that they don't tend to prepare the meals themselves. As will be discussed, the second generation women are beginning to be more concerned with the time required to prepare these traditional foods.

"Again, it's a tradition, in the culture. The food that I've been eating for my… since I've been a child…I've been eating the same type of food…rice, chicken, lamb, curry, dhal…These are the foods I'm always eating so it's been coming to me through the family….I can only handle that for

a day. After…if I eat it for two or three days, I miss my curry. It's in my blood." (PII YM 05 AH, second generation male, married).

At the same time as wanting to maintain traditional eating habits however, for the youth, new foods, and in particular take-away foods were seen as now being a part of the Bangladeshi food culture by the majority of all participants.

I think for the younger generation it definitely is. When I look at my brother and his friends they eat, yeah most of the time they tend to eat out and I think it is becoming a bit of a trend especially in the younger generation. (PII YW 05 YC, second generation women).

While it is the view, with respect to the youth that the Bangladeshi culture is 'absorbing' take-way foods, this is not the case in relation to the first generation.

I don't think it is becoming part of the Bangladeshi culture, the people who are from Bangladesh like us who grew up there, it's not in our culture, we still eat our old [traditional]. PII OM 02 AH, first generation male).

Not all participants however feel it was essential that they should be expected to have only traditional foods, and not experiment with new choices, however once again they conceded it was the youth who were the ones more readily changing dietary habits.

I don't think that I should only eat Bengali because I am Bengali! …..Because all you see outside these shops is young Bengali children, very few older people like us, 40+ will eat there. But its part of the young culture, they are the ones that are keeping them in business. (PII OM 03 HRK, first generation male).

The Bangladeshi culture has historically been patriarchal although as has been noted in chapter two the change in relationships between men and women began in the 1970's as a consequence of economic and political crisis in Bangladesh (Phillipson C, Ahmed N, & Latimer J 2003). For those living in Tower Hamlets Community there too has been changes as a consequence of migration and changing roles, especially for the second and subsequent generations. Their was a perception of inequality in roles voiced by some of the first generation women, who did not feel that it was their role to be a 'housewife' [49] and take direction from their husbands, expressed some resentment towards the men in the community. These inequalities were seen as a reflection of their culture and not related to Islam.

[49] Terminology used by the participants

The thing about Bengalis is that the husband wants to keep his wife as a servant and call her a 'housewife'. And they bring them to this country and, a husband can make you or break you, they bring their wives over and want to keep them as servants. (PI OW P3; first generation female)

[T]hey see you as their wife and all you have to do is dress up and not say anything, it doesn't matter what you want. But Allah has said that men and women are equal. Islam is about peace. (PI OW P1; first generation female)

The gender roles remain particularly dominant for cooking and shopping practices for both generations although with respect to lifestyle, changes are being seen with the second generation women beginning to take up work outside of the home rather than maintaining their more traditional role as a 'housewife'. While for some of the younger men they are participating in cooking although this represents an interest rather than necessity as tends to be with the women. Again however this is not a blanket shift with some continuing more traditional gender based roles than others.

And it's always cooked by the ladies. I've never had food cooked by a man. Very rarely I've seen a man cooking. So that's when I realised. When I cook, I tend to cook completely differently. (PII YM 05 AH, second generation male, married).

Overall the social and cultural importance of traditional food remains amongst the community although the interpretation of this is changing. The first generation continue to predominantly prepare, share and consume traditional foods as an integral component of their lifestyle whilst the second generation is beginning to incorporate new foods, not seeing maintenance of a traditional diet as mutually exclusive to the introduction of new foods. The most negative aspects of the changing food culture has been the over-indulgence of 'special' foods due to their ease of availability for both generations, as well as the predominance of fried take-away foods as the main alternative to the traditional diet in the second generation.

Gender roles continue to reflect a patriarchal society although many of the first generation women speak against this noting that in Islam men and women are considered equal and that it is the Bangladeshi culture that has made this otherwise. For the second generation women continue to take the role of food provider however changing lifestyles are impacting on this. There are also some men who enjoy taking part in meal preparation although this is predominantly an individualised act based don taste rather than preparing foods for the family.

6.0.1.2 Religion

As anticipated from the academic literature, religion is a powerful influence on choices made with both diet and lifestyle being very much informed by faith. The foremost determinant of food choice is whether or not a food is halal with many of the participants exclaiming that 'of course' that is their first priority; that was without question.

I always eat halal. Whenever I go shopping to say Sainsbury's I always check and ask if it is halal. I don't eat anything haram myself and I wouldn't feed anything haram to my children. We are very strict about following that. The children are always checking labels, they won't eat crisps if its says something on the label, I might have accidentally got the wrong thing and they just tell me to throw it out because it's not halal. (PII OW 02 RB; first generation woman).
Yes it does. Of course it does. Has to be halal. It has to be sacrificed and cooked in the Name of Allah. So that does…have an impact on me. So when I'm shopping I make sure I buy the halal meat, halal chicken. (PII YM 05 AH; second generation male)

The maintenance of good health is embedded in their belief with the Prophet talking about the importance of healthy food in the Food Laws. A number of the second generation male participants have noted that they have an obligation to keep healthy such as by the avoidance of 'junk' food or limiting portion sizes.

God has also commanded us to eat good food, clean food, not junk food.
(PII OM 05 FA; first generation male)

Our religion is Islam. And under no circumstances, if just one handful of food goes to waste, that to me is [unacceptable] in the religious perspective. Excess eating is also not like by me. If someone comes to my house by invitation, fine, they may eat – I won't exactly stop them, "Don't eat", but if I go to anyone's house, I am always measured in my eating. If there is a curry, you'll see some people will get two helpings, sometimes three. I will get the one curry just the once. I just get the amount needed, eat the amount needed. (PII OM 04 MA; first generation male).

But now I do personally see that Islam does take a big effect on me. So it is like about the fast, it is about keeping to a third and not stuffing yourself up. And that's where its does come from, definitely. (PII YM 02 ZK; second generation male).

The strong influence of Islam on personal choices makes religion a potentially a good avenue for influencing behaviour at an individual level. This seems so particularly for the second generation men with repect to changing new food behaviours.

6.0.1.3 Food literacy

Food literacy refers to the participants' engagement with food including its preparation; knowledge about where food is sourced from, and familiarity with traditional foods as well as new foods experienced in the UK.

The second generation female participants' cite a lack of knowledge about western food choices as a reason for primarily choosing fast food as they are not able to identify with other choices. This is partly as a consequence of being raised in an environment where knowledge of foods other than traditional is very limited. Skills and knowledge regarding new food is therefore restricted, not knowing what to choose or how to use raw ingredients.

I looked at it and thought, 'what is it?' and put it back!' (PII YW 04 SB)

Amongst those that cooked foods other than traditional Bangladeshi it was noted that this tended to be only simple 'English' dishes such as pasta or pizza which interestingly would more commonly be classified as 'Italian'.

Yeah I mainly cook Bangladeshi cuisine. I don't really know much about English food apart from the basics – pizza, pasta etc! (PII YW 05 YC, second generation female)

This lack of new food knowledge and limited cooking skills has not been recognised in previous studies looking at the foodways of this population particularly in relation to the intake of take-away foods.

6.0.1.4 Sources of information

When asked where their knowledge of food comes from, the respondents stated that they gain their information about diet and health from a wide range of sources which can be broadly grouped into 'community related' and 'external'. Internal sources include community centres and advocates; friends and family within the community; through the Mosque; school and university; leisure centres and shops, whilst external sources were through government bodies and health charities; health professionals / experts; food labels; and the media.

Starting firstly with community related sources and particularly the people within the community; friends and family, as with the wider population, are seen as an important source of information. It was noted that people who take an active role within the community can reach out to people in their own language and by being known are more likely than others to be listened to.

[F]riends and family, the people you go out with, people you socialise with, you see how other people eat – what other people eat – and you kind of learn from that. (PII YM 01 AN, second generation male)

I can reach out to the community, the elders and speak to them in my…our language. Translate…whatever that needs to be… …they'll listen to me because they see me, they know me. (PII YM 05 AH)

Not surprisingly the mosque was seen as an extremely important avenue for education and receiving information. Although there were differing opinions as to whether the Imam was the best person to be delivering the information, some seeing a difference between their spiritual leadership versus providing health advice.

"And if it was a religious leader that was advising against over eating or eating unhealthy food – because there is some [religious instruction] about eating, if they focus on that then it will be very [effective]." (First generation male)

The influence of the Imam was noted to be extremely strong and more likely to elicit change than a doctor; this is linked to the advice being part of their spirituality and the way the Prophet led his life rather than the 'biological' notion from the western interpretation of health.

"And you know…things like eating crap…I'm sure that's against the advise of our Prophet but obviously, the message comes from an imam will have a difference than a doctor coming and saying, "Oh, don't eat this because biologically it's not good for you and everything" (PII YM 01 AN; Second generation male)

The Imam was not seen by all however as the best source for health information with health education not considered to be their role as they are not health experts.

The imam can give a khutba [Arabic word meaning sermon], that's fine, but the imam isn't the expert though, is he in that field? You must imagine the health professionals, they are the ones who can explain these things better. If the community-based health professionals, the community workers, those with good links to our people, maybe they could do it. I think there is a need for them all. The imam is okay, but the sermons are over in a short time, insofar as the sermons are concerned. (PII OM 05 FA; first generation male)

This role of religious leaders has been recognised in previous studies although the manner in which their influence may be exerted has been less clear.

When noting the venues for receiving information, aside from the Mosque, the community centres are also seen as a cornerstone. For many of the first generation participants in particular community centres are seen as places where they can meet with members of their community to exchange information in a culturally appropriate environment.

In the women's centre they ran nutrition classes for a while – a lot of women went to them, I used to go to. A lot of people learnt so much from those classes, and I did too. (PII OW 05 RB2, first generation woman)

Few of the participants considered school or university to be a significant source of education, with many, both first and second generation, not remembering whether they had any nutrition education or not, others simply stating they did receive information from school following a direct question, and some feeling that they had a complete lack of education about healthy eating when at school.

At school they used talk about it, we used to like, humanities we used to talk about what's like healthy and what's not. But we never had that you know, deep knowledge on it, like from a nutritionist or anything. (PI YM P1, second generation male)

I don't think it was direct, but I do remember sometimes in school, as in primary school where they used to have days, so there you used to be days where you used to be forced to have peas and things like that. But the message, I don't think they like to children they can't explain it. But it was never directly put to me, but if I look back there was some days I didn't want to go to eat lunch. (PII YM 02 ZK)

This lack of nutrition education at schools reflects the changes seen in the curriculum with respect to food and health education and has a significant impact on the potential for people in the community to engage in lifelong learning.

Sources of information from external sources and not specifically related to this community came from a range of different agencies.

A role was seen for greater government input into the provision of information and leadership as whilst few references were made to the government being a source of information, the respondents tended to be recommend for this to occur. One participant did note however that information had been received from the 'primary health trust'. These perceptions link in with the MRC report, *The 'Healthy Living' Social Marketing Initiative: A review of the evidence (Ali J 2000)*, which provides a framework for a comprehensive strategy to address obesity backed by consistent messages,.

[L]ocally they have lots of [health programmes] and we get [leaflets] on all sorts of healthy things, from the [primary health trust]. And these are useful, especially in saying what is good, what is bad, what foods control [cholesterol], what cause too much [cholesterol]. (PI OM P3; first generation male)

When receiving information from 'experts' external to the Bangladeshi community specifically, health professionals as a group were considered to be an important source of information whether they are a doctor, nurse or dietitian; the participants at times did not seem to differentiate between the professionals. The information received may be direct or secondary to attendance with a family member.

Not to me directly. But my mother's diabetic, my father used to diabetic as well but he's passed away now, but whenever I do go I obviously hear about it and I do learn from it. There are some very good benefits that we can take from that. (PII YM 02 ZK; second generation male)

Doctors especially were considered to be a key source of information about diet and health although there were a number of conflicting views with respect to the quality of the information that was received with both positive and negative views being expressed.

Many of the participants felt that doctors were well respected within the community and therefore people were likely to listen to the advice provided.

I think it would be very good coming from the doctor. People have a lot of respect for doctors and would pay a lot of attention to what they say. (PII OM 01 SA)

On the other hand however a number of the participants made the observation that the doctor does not provide adequate dietary information or the information that they provide is too superficial, being prescriptive do's and don'ts rather that a practical adaptation of the preferred diet determined in partnership with the patient. So, while being considered by many to be a good person to provide advice due to being in a position of authority and trust, they do not necessarily all believe that the information is adequate.

Does the doctor ever tell you anything useful! They just say that everything is good for you! The never actually tell you to avoid any foods, do you understand? (PII OW 03 RS, second generation female)

[S]o they told me to control what I eat, and boil everything but I don't like boiled food. (PII OW 05 RB2)

"I do know, but the doctor still gives us advice. We are rice-people aren't we? We eat a lot of rice and the doctor says to cut back on the rice and eat more salad and fruit. He says that is good for health, and if your weight has gone up then it will keep your weight down." (First generation female)

There were also strong opinions expressed regarding the role of the doctor. As with the academic literature there was a perception by some western doctors lacked nutrition knowledge, focusing rather on prescribing medication (Nichter M 1989) and therefore it was not their position to be providing dietary information. In these cases the participants preferred to receive the dietary information from nutritionists who they see as the experts.

Personally, I'm completely against these conventional doctors. …Personally. The body requires nutrition, not a doctor. Into the body a doctor…what does a doctor give? The doctor says, "I give you this and this and this-cillin and you come back in two months time", "You go to hospital in five months' time and you cut your throat". The doctor advises 'solution'. The doctors are not needed for body maintenance. A healthy person, from age one to old age, needs good nutrition. There are nutritionists, they can advise better. Doctors are good for specific reasons. (PII OM 04 MA)

Few of the participants have received information from a dietitian / nutritionist directly; contact often being made when attending a session with another family member, such as a parent. Of those respondents who were aware of the role of dietitians / nutritionists, their advice was held in high regard, being seen as the experts in the area with an in-depth knowledge.
There are nutritionists, they can advise better. (PII OM 04 MA)

So dietitians not telling you to not have meat and have fish, but telling you to keep the portions small. (PII YM 02 ZK)

One reference was made to the ability of those who suffer from a medical condition to be able to provide information based on their own lived experience which is the basis of the NHS Expert Patients Programme[50].

[T]here are lots of people who can tell you from their own experience [sufferers] who will say what they are eating to manage their health. (PI OM P2; first generation male)

When prompted about food labels as a source of information, as with food choices in general, religious considerations were at the forefront, that is, whether or not the food was halal or haram as noted by a symbol on the label or by virtue of it being a vegetarian product. The point was made that checking to see if food was halal however was not such an issue as it is mostly for ready meals and not fresh fruit and vegetables and these are rarely consumed.

When we first look at the label, we look for…the first thing is make sure it's halal, so in Tesco's…in Asda's they have this 'H' sign on it, or a 'green' sign on it…? Which generally means vegetarian and vegetarian means halal. That's the first thing you look for. Every now and then, you know, if you buy any yoghurt or like any dessert, you kind of make sure the calories are not…not too high. (PII YM 01 AN; second generation male)

Apart from checking whether a food it halal or haram the other most commonly cited reasons were for fat, sugar and calories however no detail was provided. Participants admitted however to a degree of ambivalence in food choices, looking at food labels for saturated fat and caloric content while conversely having a regular intake of take-away foods.

Yeah I do – how many calories it has. Fat – saturated fat. I read all that. Yet I have PFC! I read what all the ingredients are. It's really important for me to read that. (PII YW 04 SB; second generation female)

For the first generation the reading of food labels was often seen to be the responsibility of their children due to issues such as language barriers or inability to read due to the print size. While for others they simply were not interested in making the effort to use the information.
If I could read English then maybe I would! (PII OW 01 SB; first generation female)

I think it's all too much of a [headache]. If I want to buy something I will, if I want to eat it I will. If I start looking at calories as well that's one more thing to think about. (PII OM 02 AH; first generation male)

[50] The Expert Patients Programme is a self-management course giving people the confidence, skills and knowledge to manage their condition better and be more in control of their lives.

The final but one of the largest sources of information was the media in a variety of forms including the television, newspapers, magazines, radio and leaflets. This media was from both community and external sources. The participants noted that food and health information was readily available and something that has been increasing.

Its generally, its everywhere now isn't? Leaflets, books, internet articles, magazine articles, papers, stuff like that. (PII YW 03 SS; second generation woman)

Television was cited in both its mainstream and community forms. Mainstream television tended to be watched by the second generation and younger, Jamie Oliver being cited as an example of the programmes watched. The first generation were more likely to watch local community television such as Channel S or the Islam channel. The local television is especially useful for those who are not literate in English although as it is presented in Bengali there are some members of the community, predominantly first generation women, who speak only Sylheti, for which this alternative was still inaccessible. This issue has been noted by Ali (Ali J 2000).

There are many ways of giving information. I think the media play a main role. With the media…For example me, I got the information. I slowly got the information through media, technology. (PII OM 04 MA)

It can be given out because now there are two channels now: Bangla TV and S Channel. Many people watch these now. Before, there wasn't such a facility. (PII OM 05 FA, first generation male)

For those who were literate in English and / or Bengali, books, magazines and leaflets were regularly cited as a source of information although for the leaflets in particular there were opposing views as to their usefulness. The leaflets were for some seen as a good adjunct to other sources or a valuable reference, while others felt that it was an uninteresting way to receive information plus again were inaccessible for those illiterate in English and/or Bengali.

In books, magazines, leaflets. They all talk about healthy food. (PII OM 02 AH)

By going to them I was told what to do, by reading the leaflets I could see what I had to do. It doesn't matter, they are all good. (PII OW 04 MB, first generation woman)

I don't think anyone reads leaflets or flyers. They don't really [attract] people. (PII OM 03 HRK)

For some of the second generation participants it was interesting to note that they felt they had a complete lack of education about healthy eating when younger, with nothing being taught at school. Knowledge instead coming from family but now also the media and celebrity via high profile chefs.

The power of advertising was also recognised as a very powerful source if information and as a consequence the concept of social marketing was proffered.

Can you imagine yeah, when we were children, you see the Frosties TV advert and you think to yourself, 'mm need to have frosties, yeah'. Imagine the amount of sugar in there, but its apparently healthy for you, and then you have bowlfuls of it. And then there's a lot of sugar, I mean crunchy nut as well, check that out. (PII YM 02 ZK; second generation male)

I know they're advertising but I think the companies that promote fast food are advertising better, that's all it is. Come on! A McDonald's advert usually gets you sort of…mouth-watering; you know…..Get the person who did the McDonald's advertising for diabetes or to raise awareness. I'm sure he'll do a better job than whoever is doing it right now. It's about making the information appropriate for the people you're targeting. (PII YM 01 AN)

Whilst it may be tempting to relate these views as the participants 'aspiring' to be part of what the wider community has, this was not reflected in further discussions with the participants where there was little aspiration to be part of the western image, preferring instead to forge their own, British Bangladeshi identity. See section 6.0.2.18.

6.0.1.5 Class and education level

The impact social deprivation and / or lack of education on health have both been discussed in chapter 2, section 2.4.1. This issue was discussed only by a few of the participants but they did so passionately seeing a strong link between poor education and the types of food choices made.

Children who were born here, and especially those who are educated, they [collect] this information. But those kids who hang around on the street corners, they are no good for anyone – they won't give information or take any. They just go home and eat whatever is there and that's all. (PII OM 02 AH, second generation male)

It's like a ghetto! It's more like a ghetto experience! Because in a ghetto that's like how it is – when you're out and about with your friends, you buy crisps and sweets. (PII YM 05 AH; second generation male)

I think that [education, religion and culture barriers] all make it hard for women … Not just [culture] but mainly [education] (PI OM P2; first generation male)

For some, poor food choices were seen as a sign of ignorance and apathy of people towards their own health rather than as a consequence of their social situation as such, with more educated people on the other hand wanting to make healthier choices. This conversely implies that those who are uneducated 'want' to be unhealthy.

Some people don't like that kind of food, educated people are concerned about their health and they don't eat it. My children don't have it much. (PII OW 04 MB; first generation female).

This later view is reflected in much of the mainstream media whereby the moral highground is taken, often demonising individuals for the choices being made rather than looking at the broader societal influences such as the impact of the obesogenic environment as discussed in chapter 4, section 2, 'the focus on individuals – personalisation'.

6.0.1.6 Family history

When questioned about having a family history of diabetes, the majority (sixty eight percent of responders)[51] noted that they had one or more family members that had been diagnosed. For the men in particular, twelve out of the fifteen responders (eighty percent) had a positive family history of diabetes. These numbers mirror the known high prevalence within the South Asian community (Department of Health 2001b). Other conditions such as high blood pressure or heart disease were also noted for themselves or others within the family.

Even in my family there are quite a few diabetics - and not just in my family, a lot of the people I know have diabetes. (PII OM 02 AH; second generation male)

In many cases, this family history was noted to have an impact on the food choices made but for others it proved to be less of a motivator although there was awareness that this would be a plausible response.

I know my mum's going through this, but I don't want to you know, in the long term end up with the same condition my mum has. But even this that's not a good enough… reason for me not to go out there and not eat…properly. (PII YM 01 AN)

Especially because my father, he went, I mean my father was, suffered from diabetes and later on ended up suffering from heart disease and that was one of the reasons why he passed away. And that's one of the things that significantly had a big, it's had a big impact on me. But I'm not saying that straight after he died like I changed my whole dietary things. (PII YM 02 ZK; second generation male)

6.0.1.7 Health knowledge

This section outlines beliefs in relation to food and the concept of 'healthful' and unhealthy food choices together with the overall maintenance of health and prevention of disease such as overweight and obesity, and diabetes.

[51] Twenty two out of the thirty participants responded to questions relating to family history of diabetes; fifteen of these noted a family history.

Overall the statements made about health reflect opinions resulting from a fusion between a contemporary western biomedical view and more traditional health beliefs rooted within the Ayurvedic system. The general concepts about healthy and unhealthy foods are loosely based on the western classification of foods into their dominant macronutrient group[52] and the dietary recommendations based on this classification. As such there were the usual associations for healthful and unhealthy food such as fruit and vegetables being healthy with butter/chocolate/crisps considered to be unhealthy. With regards to traditional food the unhealthiest aspect was seen to be oil content and lack of variety.

Fatty foods like chips, burgers, fizzy drinks or alcohol. (PII YM 04 AS; second generation male)

"… [butter] and ghee. I used to have them a lot, I liked them but now I have stopped it. It causes me problems. But I have fish regularly. I eat a lot of fish because fish has no fat and there's nothing in fish that will harm my health." (PI OM P2; first generation male)

Everyone won't have the same diet entirely. But things like fruit are suitable and good for everyone. Some foods are common to all groups. Fruit, vegetables are good for all. (PII OM 01 SA; first generation male)

Isolation also played a role in health knowledge with the first generation women being more likely to be unsure about western concepts of diet and health which led to some confusion. For many of the participants there were a number of misconceptions, the same as those seen in the wider community resulting in some 'black and white' concepts such as being necessary to avoid potatoes, rice and meat or that all brown foods are healthy choices.

Well I think for some illnesses butter isn't good for you, otherwise there's no reason why it would harm you if you have it sometimes. I know that some people are told to cut it out of their diets because it's fatty. And what's that new thing… cholesterol – I had never even heard of it! If you don't get these illnesses or don't know anyone who does then how would you know the names? They don't eat this, don't eat that, diabetes, pressure. They told my husband not to even grapes apparently it affects his pressure. (PII OW 01 SB; first generation woman)

Fast-foods in particular are considered to be very unhealthy choices with PFC [53] seen to offer the poorest choice wrt healthy options however even where companies do offer so-called healthier options they are not necessarily trusted, being considered more hype than substance. Of note is that PFC is the most commonly quoted take-away store being used by the Bangladeshi community, due, as has been explained by the participants to the taste which is spicier than other outlets and the fact that the claim the meat is halal whereas in larger establishments such as KFC or McDonalds the only option will be the fish burgers. Consequently, even if the likes of McDonalds are starting to reformulate their products it is not likely to have an impact on communities such as this.

[52] Carbohydrates (breads, cereals and starchy vegetables), fruit and non-starchy vegetables, protein (dairy, meat and alternatives), fats and sugar.
[53] Perfect Fried Chicken

PFC is the one that's the most unhealthiest; very few PFC's also have healthier options. I don't really eat at Burger King or McDonalds, but I suppose they fall into the same category. (PII YW 03 SS; second generation female)

…foods that I'd consider to be healthy, obviously fruits and vegetables, and then 100% juices so like orange juice, pineapple juice etc. Unhealthy foods I would consider, I hate McDonalds! That's totally unhealthy – I don't care what they say about their healthy approach these days. Yeah all of those fast food places. Soft drinks like Coke, Fanta, 7up, things like that I'd consider unhealthy. (PII YW 05 YC; second generation female)

The importance of a mixed diet is also realised by many, with the lack of the traditional diet being one of the main criticisms by the second generation participants. This appears to link with the concept of exploring new foods often expressed by second generation participants.

Good mixed diet with lots of fruits and vegetables which haven't been like cooked to a mush! (PII YW 03 SS; second generation female)

… coming from the Bengali background we tend to usually just have our rice and curry. But we try to mix it with our own vegetables, a variety of other erm types of foods, fish, chicken, meat etc. so I think that's quite important. I think things like pasta, a lot more vegetables in dishes as well, and more fruit in the households as well. (PII YW 05 YC; second generation female).

A number of participants also recognised the importance of portion size and the avoidance of eating too much at one time, but rather having a more even meal distribution across the day. The importance of portion size as a major contributor to obesity has been widely recognised (Young LR & Nestle M 2002).

Its not good to eat too much in one go, on the one hand it can lead you to feel unwell, its not good to eat too much in one go, but if you eat smaller amounts more often then it won't do you harm. (PII OW 04 MB; first generation female).

Amongst both the first and second generations there was often a belief that many people in the community do not have a very good understanding of what constitutes a healthful diet although the first generation tend to believe that it is the youth who lack knowledge due to their high intake of take-away foods. One of the first generation men suggested in fact that the poor diets consumed by younger members of the community were responsible for their bad behaviour. Among the second generation there was a tendency to believe that the older members of the community had little knowledge and have monotonous diets that they won't change.

I mean the behaviour has to be down to food, doesn't it? I believe that people's behaviours are being ruined by food, because food that looks good isn't good for you. (PII OM 02 AH; first generation male)

For some organic foods were considered to be superior to other foods although not always possible to purchase due to the premium paid (see section 6.0.3.3). This belief was stronger in the first generation men and may to an extent be a consequence of their link to the land, the majority as noted in chapter 2 being from rural communities. The first generation women in particular however did not see this issue a consideration and nor did most of the second generation men or women although for a few at least it was important.

Most of us just go to the shop, if it looks nice to us, looks fresh, then we just buy it. Everyone isn't [experienced] in the same way … We may have been born in a poor country but in our country even if you buy a simple vegetable there is nothing extra in it. It's straight from the ground that it was born in to. It may be small, but it's the way it was meant to be. In this country, whatever you can think of, you may think it looks nice, its not just [fertilizer] in it, there's much more. All of the stuff in it goes in to the people. (PII OM 02 AH)

I don't really think about these things. (PII OW 05 RB2)

I personally processed food I'm not too much for it; I'm more towards the organic side. (PII YM 02 ZK)

But I think generally, I think organic is more expensive, isn't it than processed? (PII YM 02 ZK; second generation male)

Another aspect of health knowledge was the use of alternative or complimentary medicine which according to Health Survey for England there was little use of amongst this population group. Many of participants however had alternative health beliefs together with their 'western' views although these tended to be rooted more within Islam than the Ayurvedic system of hot and cold foods. As such many used components such as black seed oil, honey, karela and zam zam water but this tended to be more so by the men than women and in particular the second generation men. The second generation women didn't appear to use these types of remedies at all although some did still believe in the benefits. Overall, there was little knowledge of any actual benefit, more so a faith in the word of the Prophet and perhaps being more inclined to trust traditional medicine despite the lack of evidence.

"I know honey makes things really good. Honey is a cure for everything, that's all I know … But there's a cure for everything basically, but I don't know if anyone knows about that. .black seed oil works" (PI YM P2; Second generation male)

Of course, black seed oil is actually a medicine. And then there is a Bangladeshi vegetable – the karela – that is really good for diabetes and preventing diabetes especially for those who are at risk of developing diabetes, it is good. I have it sometimes. (PII OM 03 HRK; first generation male)

We have that. The benefits of honey have been told by the Prophet, and we use black seed oil too. (PII OW 04 MB)

Why was it… it was recommended to me the other day for…well, it's good for everything, I can't remember why now. (PII YW 03 SS; second generation woman)

Apart from the reported benefit of specific foods many participants also expressed a general belief in both physical and spiritual wellbeing with the maintenance of good health being embedded in their belief with the Prophet speaking of the importance of consuming healthy food. A number of the participants have noted this 'obligation' to keep healthy and avoid junk food.

I would say this: we have to eat healthy food, it's essential, and for this reason: if our health is okay, we will live longer, we can live our lives and worship better, it's important for all of us to stay healthy. We have to eat well. (PII OM 05 FA; first generation male)

Then obviously the first thing you die, Allah, God will say to you how you took care of your youth, how you took care of your health, and that's what concerns me and that's what made me give up cigarettes. I enjoy smoking, the whole reason of me giving up was because of my faith." (PI YM P2; Second generation male)

There is a growing understanding of the concept of prevention, again through a combination of western and traditional beliefs. Some continue to take a theological fatalistic approach although most recognise that it is still possible to make positive diet and lifestyle changes to prevent disease even if they don't believe the ultimate outcomes is in their own hands whether this be as a consequence of genetics and their strong family history or the 'will of Allah'.

Obviously nothing happens without the will of Allah, but they should be told to be careful. (PII OW 03 RS; first generation female)

If it's going to happen it's going to happen. I mean my parents have had it, so I mean, you the gene process obviously, I have a very high chance of getting it. It's about not getting it, it's about preventing it. I mean preventing it for as long as I can. And if I do get it at least I'm a bit more physically active.(PII YM 02 ZK; second generation male)

While there is an understanding of a link between diet and disease and the high prevalence of heart disease and diabetes, there is some perception however that this does not relate to younger members of the community participants, rather seeing it as an issue for the older people. In this way therefore there may not be the realisation that the positive behaviour changes need to be across the life course. This perception of course is not unique to the Bangladeshi community.

If people know what they're buying and what the effects are, then I believe that it's very important, especially at this time … because a lot of people are having … people are dying of heart attacks and food-related diseases, diabetes. So many reasons for this. Being young, it's not really affecting me, but I can see from the elder generation that it did affect them and the food did play a part in their illness. (PII YM 05 AH; second generation male)

I think that when you are young you can eat anything and it doesn't cause any problems. (PII OM 03 HRK; first generation male)

With regards to body weight specifically, most people could recognise the link between body weight and health with nutritionally poor food being seen as one of the biggest concerns and the reason why many people, including children are becoming overweight or obese.

But they eat just fatty food like chips and fried foods so of course they would be fat, and those foods have a lot of attraction for children – chips, chicken and chips. They are not good. (PII OM 03 HRK; first generation male)

People would agree, 100 per cent of the people would agree that junk food is bad, creates obesity and decreases nutrition. (PII OM 04 MA; first generation male)

Generally you hear about all these obese people nowadays. Everyone kind of erm…eats a lot of Mac Dees and chips and things. (PII YM 01 AN)

Furthermore, as with previous studies (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000;Airhihenbuwa CO 1995;Greenhalgh T, Helman C, & Chowdhury AM 1995) the link between status and weight was not recognised in this cohort and in fact overweight seemed to be more of an embarrassment than something to be boastful about, reflecting a change in cultural perceptions and health beliefs.

I don't have any of those type of cultural things that if you are fatter you are richer. I think it's not a good thing to be fat. (PII OM 01 SA; first generation male)

I am the biggest in my family, when I went by to Bangladesh one of my uncles said there's no room in the rickshaw now you are here! I am the biggest in my family. My sister is very slim, its only since my coming to this country that I got so big (PI OW P3; first generation female)

Amongst the first generation women, they were most likely to express less concern about their weight or feel that despite efforts being made nothing could be done if it was fated. At times there also didn't seem to be the recognition that there was a link between overweight and obese, and ill health, perhaps more being an aesthetic rather than medical issue.

No I don't really worry about that. I'm more concerned about not being ill! Obviously it's not good to be too big, but it's not something I'm worried about or control my eating for. (PII OW 03 RS)

Knowledge and beliefs regarding diabetes and its prevention were quite variable. With some participants having very negligible knowledge with others quite a detailed understanding of links between the various risk factors such as diet, physical activity, body weight and genetic predisposition.

If your weight is too much for your height you are at risk, or if you are physically inactive or it could be a genetic factor. So the first two you can do something about – be more active and ensure that your weight is not too much for height. So I take care of those two, the genetic factor I can't do anything about. (PII OM 03 HRK; first generation male)

I believe that if people change their diets a little, they make better choices, not eating too much, not filling up your stomach so you can't move – you should always leave a part of your stomach empty. I think that would be good. Another thing people could do is more [exercise] to try and prevent diabetes. And it would be a good thing not to eat all your food in one go in one meal, but spread it out over the day. (PII OM 01 SA; first generation male)

Despite participant feeling embarrassed that knows little about diabetes, he does in fact have some understanding of the main concepts and issues. Possibly as he is a health worker he feels that he should have more knowledge but this is not his specialty.

I'm guessing genetics has something to do with that. So if my mum and dad or my grandparents had … diabetes, I'm probably more likely to become diabetic. I think lifestyle … the type of food you have. All these things have a big impact. Maybe your weight … I'm not sure … quite embarrassing. I think if you're overweight or if you're a kind of big person, you're more likely to be a diabetic. Why do I say that …? No idea! I know there's a lot of research done in the Bengali community now, I know Bengali people, I know Asian people generally are more likely to … get diabetes than any other people. (PII YM 01 AN; second generation male)

I have heard things from people who have it, they say it's from eating, so you can prevent it by avoiding some foods. (PII OW 05 RB2)

For a number of the participants, while they had some knowledge of many of the nutritional health messages there seemed to be only a limited understanding of what this actually means in practice and there appears to be a connection between particular foods and the development of diabetes versus the combination of risk factors. The common myth of a high sugar diet in particular was noted by a number of the participants.

My doctor has said…my friends have said…that which they say in this country, the doctors, the clinics, that diabetes is to do with the food. You must imagine, from eating too much meat diabetes can happen, eating just one type of food diabetes can happen. Food has to be consumed by changing the routine, you have to have variety. If you eat just one type of food then diabetes can happen. With anything, just one type of thing is not good. I've heard like that … the doctors say you "must have balance in what you eat". Not to eat too much meat. The

meat is most problematic it seems. The rice we eat too much. I think it's from this that diabetes happens mostly. Even sugar is eaten too much… If anyone eats too much sugar, it can be from that. (PII OM 05 FA)

One participant went on to discuss the increasing prevalence of nutrition related non-communicable diseases such as diabetes, and to note that this increasing prevalence is not only a consequence of diet but other, unspecified, factors that weren't historically present. There is some confusion however, recognising that there are risk factors other than diet but appears to have the perception that others believe that diabetes is a consequence of diet alone which for him was the issue.

Other than the belief, the reality … then why should we eat rice? Then why should we eat dates? What is in the date? Then why should we eat bananas? Every type of food, when we eat it, everything has a base. All the types of nutrition that are there, we have to look at. But there are differences country to country. The people of Bangladesh … forty years ago from today, fifty years ago, five hundred years ago, eat this very rice, it was never a factor. They didn't have diabetes or there weren't the varieties of diseases that are now prevalent. So it's … really … the reasons for diabetes at the moment … these reasons weren't there before. The people of the past didn't know of them. There weren't the varieties of diseases. These have now come about. I don't think that "if you eat this you will get diabetes or if you eat that diabetes will go". That's not a factor. (PII OM 04 MA)

Finally, the communication of health information was noted by some to cause confusion as a consequence of the source of information, receiving conflicting advice and method of delivery. This will be detailed further in section 6.4 when discussing the respondent recommendations however at this point I will present the views of two participants on this matter to illustrate the effect on their health knowledge.

Like many people in the wider population there was a perception expressed that scientists constantly change their minds, rather than as a consequence of scientific knowledge advancing, to the extent that people are manipulated by the information provided. Others however other participants felt that the fault lie within the community itself and their lack of understanding.

Knowledge is being manipulated. I am very upset with the way information is manipulated. Whichever way you look, politically, information is manipulated; you look health-wise it is… later you see, 10 years later, a report has come out saying, "No, shiddo-rice [easy cook rice] is bad for diabetes". And yet 10 years earlier, the doctors, the researchers, established through paperwork that, "Shiddo-rice is good for diabetics." So, what's happened there? What's the base? Information is being manipulated. (PII OM 04 MA; first generation male)

…there are many things we think it to be healthy but later it is seen, according to the doctors, according to the experts, that it is not so healthy. That's why we need to know a lot more. There are very many things that we … at one time we … I am talking about myself; I used to think

eating potatoes is good. Now it seems there is risk in the potato. There are unhealthy things. So, with many things, we think a certain way but according to doctors and experts advice, there are many flaws in us [our way of thinking]. We need more information, I think. (PII OM 05 FA; first generation male)

6.0.1.8 Food purchasing practices

The participants were asked specifically about their food purchasing practices revealing a number of aspects including where the participants chose to shop for example grocers[54], supermarkets or markets, why they chose these places and the frequency of shopping. What also emerged from the data analysis was explicitly who is usually responsible for the family shopping which varied between generations, genders and the specific items being purchased. Shopping habits and specific food choices tended to be based on factors such as convenience, quality, availability and knowledge. The market stalls were often seen as offering inferior quality compared to the supermarkets but were noted to be more affordable as a source of fruit and vegetables. Traditional foods are more often bought by the first generation parents while other shopping may be done by the children, which to a degree is based on knowledge of traditional and 'new' foods, and overall there is a distinct separation between where certain foods are purchased. Traditional food and meats are usually purchased in the Bangladeshi grocers; fruit and vegetables in the market and / or supermarket, and kitchen cupboard items such as cereals and biscuits in supermarkets. Another way to look at this is that raw, fresh ingredients tend to be bought from Bangladeshi shops and processed foods from the supermarket.

Well we get things like cereals and bread and things for breakfast from Sainsbury, and we get things for our cooking from the grocery shops. (PI OW L; First generation female)

And we like the big shops like Taj Stores and Bangla Town because you get a good choice of Bengali foods. (PI OM P1; First generation male)

A mixture of everything I guess. Convenience I think takes over everything else. At Asda's or Tesco you can buy …what you can from there, but yeah, open markets, Bengali grocers. I think the majority of our food is from the Bengali grocers. But at the same time, quite often they are not local – we have to drive to them, so we just go to Tesco's or Asda's and buy whatever we can from there. (PII YM 01 AN; second generation male)

There was a perception amongst the majority of participants that the markets stalls did not supply fresh produce with supermarket stock being fresher and from better sources. Not all participants agreed with this view and there was an indication that partly this was as a consequence of buying bulk amounts of fully ripened produce which is less likely to be done in a supermarket.

[54] The term grocers covers local Bangladeshi butchers, cash and carry's and those stocking traditional foods such as shutki (dried fish), vegetables and spices

We buy mainly from those shops rather than the market because the market ones you'll see that they are half rotten or they might have gone past their sell-by date.(PII OW 03 RS; first generation female)

Whitechapel market, I mean, you know the fruits are cheap there. But quality wise I know one of my brothers he loves to go to, because where he shops, he leaves meat and you know the fish and everything from the Bengali shops. But when it comes to fruits and cereals and everything else then its supermarkets, and it's mostly Asda that he will go to and he will get it. (PII YM 02 ZK; second generation male)

She actually, my mum's actually got the idea that if she was to buy fruits from the market we won't eat it. 'Cos it happened before where she's gone and she's found a great deal, you know she's gone at the end of the day when the market finished and got a box of oranges for a pound and they've rotten away, you know, so she knows her kids aint gonna eat 'em! …Sometimes I'll do it, I'll just come out and I'll like just come out and I'll like the vegetables and get it, or me and my mum. Otherwise when I'm not around she'll do it in the local area, but sometimes we have that, because we have Whitechapel market, the vegetables and stuff are really nice or whatever, we have to make an effort to come down. (PI YW P1; second generation female).

As with food choices, religion plays a significant role in food purchasing practices in relation to where foods are purchased. Meat, including fish, is only to be bought at Halal Bangladeshi butchers and fish mongers, and while some of the supermarkets are beginning to stock halal meat, the participants noted that they would still be very unlikely to purchase this meat due to lack of trust. The fish tended to be bought at the fishmongers due to the availability of traditional fresh water varieties from Bangladesh.

"Because of the culture I don't think none of the Bangladeshis, they ever go to the supermarket and they do any meat shopping, the meat might be good quality but they wouldn't go and buy it there because it's not halal." (PI YM P2, second generation male).

I …use everything, but particularly, fish, meat, I buy from elsewhere. Meat, I always eat fresh and according to my religion, the halal way. The fish, I prefer the larger fish markets. (PII OM 04 MA; first generation male)

I would say it's the other way around – there's food that I can buy somewhere else but I can't buy in the supermarket – for example halal meat and stuff like that. (PII YW 05 YC; second generation female)

Whether from a supermarket or one of the large Bangladeshi grocers, these stores were preferred to smaller local shops due to expected higher quality and lower cost. Small shops tend only to be used for items between grocery shops and snack foods such as bread, milk and crisps.

Say, if I am buying Bangladeshi groceries, where I live there are a number of small grocery shops, their produce isn't that fresh. They can't stock fresh vegetables, fresh meat or chicken. There are some shops that are recognised for this. There are some shops that are known for providing very good quality meat. It is fresh, even if it is a bit more expensive. I try and buy it from there. And vegetables I get from larger stores, even though I live quite far – I live in Poplar, I prefer to shop here because larger shops have more fresh produce. (PII OM 3 HRK; first generation male)

Many of the participants completed one large shop a week for meat, fish and kitchen cupboard items however the fresh produce would often be bought a every other day. There was of course variability in this dependent on lifestyle, access to shops and how many people were involved in the shopping, for example, large purchases at the supermarket may be left to the weekend when children could assist with both carrying the groceries and the transport whereas fruit and vegetables may be bought closer to home and in small quantities. In most cases traditional foods tended to be purchased by first generation parents.

I do it once a week. And then I get all my fish and meat all in one go as well. But vegetables and fresh things I get as I need. If I want to cook something now I will go to the shop and get it fresh. (PII OW 02 RB; first generation female).

Carrying it all can be difficult and often the children help with their car. One of my children has a car and he will pick it up. If I just tell him he picks it up. (PII OM 02 AH; first generation male)

There are also very strong gender roles with respect to food shopping in that women do not tend to do the bulk of the shopping, especially for the meat unless they accompany their husbands. When probed as to why this is the case it appears to be a matter of protocol, just the way things have always been done. For the second generation participants, as the majority lived with their parents and parents-in-law, the responsibility of the shopping continued to mainly lie with the first generation. Where this was not the case however, the gender roles were less strongly delineated.

The Bengali grocers… not my wife. I do, for fish and meat. She goes to local markets and the supermarket. There is … an issue. Our Bengali women wouldn't really go to Bengali shops. There is an issue [of propriety]. (PII OM 05 FA; first generation male)

… [S]ince I've got married, now I'm in charge of getting the food, more or less.
(PII YW 03 SS; second generation female)

With Asian families its usually the men that tend to do the shopping, so I don't know how much of a decision women actually make when it comes to eating healthy or just food generally. (PII YW 05 YC; second generation female)

To summarise, food shopping practices overall have retained the cultural constraints of men being responsible for purchasing the meat and bulk items whilst women are more likely to be involved in the daily shopping for fresh items such as the fruit and vegetables. Furthermore, as a consequence of the extended families which continue to be the 'norm' within this community, the main responsibility for purchasing the food lies with the first generation who still often prepare the food but also have more time available to undertake the shopping. Children/second generation are more likely to assist on the weekends, such as driving parents to the supermarket to buy the bulk, kitchen cupboard items.

6.0.1.9 Cooking practices and preparation

Participants were asked to tell the interviewer how they cooked and prepared their food revealing a wide number of dimensions such as variability in cooking skills and how these are learnt; who has main responsibility for cooking within the family; the style of cooking and whether new ingredients and / or non-traditional meals are being incorporated, together with aspects relating to the use of convenience foods or ready meals, and special occasion foods. In line with the grounded theory approach each set of interviews revealed new themes to be incorporated into subsequent interviews such as learnt skills passed down from family versus written recipes.

Cooking skills appear to be related to the traditional family structure with daughters getting married and living with the in-laws, then eventually taking on the responsibility of the household management. The first generation women learnt their skills in Bangladesh, then following migration to the UK learnt to adapt these skills and their recipes to their new environment. These first generation women noted the difficulty of the changes initially but in many cases it was actually their husbands who taught them these new skills having learnt the skills when they were single. Following arrival of their wives however the men relinquished the responsibility of cooking and took on their traditional role with cooking now tending to be restricted to rice or the occasional omelette if necessary.

We all learnt to cook in Bangladesh! (PII OW 01 SB; first generation women)

You learn after you get married because you have to then. (PI OW S; First generation female)

When I was single and lived alone, I had to cook for myself and that's how I learnt. (PII OM 01 SA)

I learnt in Bangladesh, and when I came here I learnt Londoni cooking! … No, you could get spices, but in Bangladesh the way we cooked, you couldn't get powdered spices, now you use powdered spices, but before we would grind our own fresh. When I came here it was powdered and I couldn't gauge the right amount, I would give too much or too little. Now of course it's fine. (PII OW 05 RB2; first generation female).

There was some reluctance to cook 'English' foods / learn western styles of cooking feeling that there was no need or no time to learn new skills; others however have been quite willing to learn some new recipes and styles of cooking, largely to cater for their children's preferences.

Well say if it was something I don't know how to do, like making a cake, then I might learn that from someone, but all the rest of what we eat, I know that anyway so I don't have to learn that or read how to. If there is something new my children will read the instructions for me and tell me how to do it. (PII OW 04 MB; second generation female)

The art of cooking itself was voiced as being part of the Bangladeshi culture by some participants who continue to take pride in preparing fresh dishes daily, but this is one aspect of their food culture that is now rapidly changing for the younger generations.

That part of our Bangladeshi culture isn't it, to learn to cook? (PII OW 04 MB; first generation female)

The second generation women interviewed had not developed extensive cooking skills at this stage although those that were married were starting to develop these skills by learning from family, especially mother-in-laws and again in some cases from their husbands. This relates to the traditional family structure with daughters getting married and living with the in-laws, then taking on the responsibility of the household management which is very different from say the English culture where [if] cooking skills are learnt, it often comes from the parents but in the English culture it is also more likely for the married children to live on own.

… a bit from family, you know from sister-in-laws, a bit from family, a bit from when I started cooking I would usually call up and say 'how do I do this?!' and a bit from my husband. (PII YW 03 SS; married)

Yeah because my wife only, she's only been taught how to do rice and curry probably 'cos she's been within our Asian community, same here I've been brought up with it and that's all we know, not like other. (PI YM P2; second generation male; married)

I'd like to learn to cook, yeah mums quite a bit of a control freak in her kitchen, she doesn't let me do anything, so if she does go on holiday then I'll take that opportunity to learn cooking. (PI YW P1; Second generation female; single)

Traditional gender roles for the most part are being maintained within the second generation with the men, if they do cook, tending to do this more for pleasure rather than as a core part of their role within the family. Furthermore the men that did cook felt that they were more likely to experiment, not having to follow traditional 'rules' as the women do.

No my wife cooks. I can cook but it's not very good, but not all the stuff. No one taught me how to cook but I asked my mother, my grandma and just learnt nothing practical. (PII YM 03 MSS; second generation male, married)

Yeah I can do grilled steaks, yeah me as well. I forgot I used to work in McDonalds; I was there for three years. Only burgers probably, that's it, and the rest my wife does. (PI YM P1; second generation male, married)

I enjoy cooking traditional Bengali [sic] dishes. Indian dishes. Curries, chicken curry, chicken masala…all different types of curries. Even if I want to eat, cook, traditional English food, that's not a problem as well. I can cook. Pasta, fish, chips …They do the cooking. Exactly. I don't really go into the kitchen. But there is a difference because obviously, they cook from the traditional [Bangladeshi] way and I cook from the…Western and Eastern together. So I blend in from British-ness to…Asian-ness … I take my time and cook. Because I enjoy it, I really do enjoy cooking… …I don't go for the easy option. If I've got the kitchen to myself and I know no-one is here, and I can move about And I've got time, then I'll really enjoy it. I take my time. I use all the different types of ingredients. I test…. I test many different ways. I believe that if you don't test, then you'll never really know the taste of the cooking. For example, like, I've realised that ladies don't take a risk when they cook. They cook it very simple. They use the same ingredients almost…the whole year. For 12 months they'll cook the same. …They'll never like, put this or put that! …This is something I've realised. And it's not just with my family. (PII YM 05 AH; second generation male, married)

Unlike first generation women who have incorporated some western styles of cooking into the repertoire, largely for their children, the second generation women are incorporating these foods on a more regular basis with the changing role of women and time pressures being a significant influence. As such the new foods reflect this and tend to be quick simple meals such as pizza and pasta, however this is also as a consequence of having nobody to teach them the skills to cook 'English' or western styles.

Yeah, I mainly cook Bangladeshi cuisine. I don't really know much about English food apart from the basics – pizza, pasta etc! (PII YW 05 YC; second generation woman)

I prefer cooking pasta! It's quicker. Especially when you're hungry you just want something quick to eat. (PII YW 04 SB; Second generation female)

Furthermore it tends to be the Bangladeshi men, more so than the women that wish to maintain a preference for traditional foods to be cooked which aside from taste preferences and cultural habits may also be partly due to the fact that they are unlikely to be the ones spending the time preparing the food. This will be discussed further in section 6.1.1.

A number of the participants expressed a preference for preparing their food at home due to wanting to have control over the ingredients and being able to adapt to their personal tastes, as well as for hygiene.

We will cook with our own estimation; we will not use too much oil or spices. (PII OW 04 MB; first generation female)

I prefer if people tend to make their own food, cook it themselves, at least they know what's going on in their food that way. (PII YW 05 YC; second generation female)

It may cost a bit more to cook it yourself, and it is obviously easier just to go and buy it, home made food may take more effort and cost, but its better for you. If you get food from outside you don't know how it was made, there is always a suspicion in your mind. (PII OM 02 AH; first generation male)

I would say home-cooked is better. It's not too oily or too spicy and you can cook the way you want to cook. (PII YM 04 AS)

The use of ready meals and convenience foods was very limited for both the first and second generation participants at home, generally being limited to frozen vegetables or specific items such as fish fingers and chips. The preference for home cooked foods over ready meals tended to be a consequence of not feeling confident of the ingredients and the lack of control over the production and taste preferences.

We use frozen food for cooking, but not meals. Frozen peas, vegetables. (PII OM 04 AH; first generation male)

Occasionally, we don't buy them regularly. Its things like chips. (PII OW 04 MB; first generation female)

And I don't like the idea of it being cooked or prepared in a fridge for how long? Do you know what I mean? Frozen stuff I'm not too picky, not frozen stuff as in, not meals in itself, but you know. I get frozen vegetables from time to time or frozen soya or fish fingers and things. But erm, you know when you get the other meals and stuff I don't really quite fancy that idea. (PII YW 03 SS; second generation female)

There was a differentiation however of having ready meals at home versus work with those second generation participants who were employed, being more likely to take ready meals to work or buy sandwiches.

Very rarely. Erm…we've been discouraged to do that. Erm…firstly, costs a bit, secondly, it's not value for money…secondly, mum cooks better things, so…when you're at work and things you take ready-made meals but rarely at home. No. pretty rare. (PII YM 01AN; second generation male)

They do quite a few ready-made meals which I kind of find myself buying quite often for work the next day. Halal noodles, halal this and that. So yeah, they do have a few things I do kind of go in and get for the following day for work. (PII YM 01 AN; second generation male)

Special meals were routinely cooked when sharing meals with invited guests, both family and friends or simply when all of the family is home to share a meal together. Special meals were usually defined as having extra dishes and using more indulgent ingredients such as ghee and cream.

Sometimes, [occasionally] there might be something like that. But not really, that just because we are all home there is special food – because we all live together anyway, and we are always home. If my mother comes or my brothers come around then there might be something extra. To be honest we don't really think that way, but it is the Asian [system] of thinking – the women in house they think of these things. If they think that so and so is coming, and maybe they wont like some of the very traditional foods, they might make extra dishes or whatever. My brothers wives come over and they will help. I can eat anything. (PII OM 02 AH; first generation male)

There is an issue over preparation. There is also korma, there is akhni [pilau-like rice dish]....these…I said didn't I, it's done occasionally, if special guests come or if the desire is there, then we do it. Once a month say. It's not important to eat it, but we do. It's nice to eat different foods with friends, relatives. It's about that much. (PII OM 05 FA; first generation male)

If I cook some biriyani or pilau at home, they will have it once, I'll cook whatever they want, roast or whatever. (PII OW 03 RS; first generation female)

Oh yes. If you invite a guest obviously you cook a lot. And during the month of Ramadan you seem to cook a lot as well. (PII YM 04 AS; second generation male)

Overall cooking practices continue to reflect a traditional family structure with the first generation women preparing the majority of the meals and second generation daughter-in-laws learning their skills. The second generation often had limited skills reflecting their position within the household and / or the fact that they have changing roles and responsibilities within the family and thus lack the time necessary to prepare traditional dishes.

There was variability between generations in incorporating new / western foods. The first generation tending to make these dishes separately for their children, if at all, whilst the second generation women were more likely to incorporate basic 'western' foods when they did prepare the meals.

Despite changes being seen in skills and methods of food preparation the participants on the whole continue to express pride in their food culture with the preparation of special meals for friends and family being important but also a few of the second generation beginning to cook for pleasure and enjoying experimenting with a mixture of new and traditional foods.
Another commonality was the lack of use of convenience foods aside from some frozen vegetables and chips. This was a reflection of both food traditional food culture and the preference for fresh foods, but also for the second generation the lack of suitable halal options.

6.0.1.10 Mealtime structure

There is a more individualistic and irregular meal pattern compared to Bangladesh with variability between the generations and genders. Those with the most regular meal pattern appear to be the first generation women followed by the first generation men. Amongst these men the main variation tends to be the time lunch is taken for those who work however meals tend not to be skipped. For the second generation, both men and women, there is significant variability in meal times, and a greater likelihood of skipping meals altogether. For all participants, the cultural importance of breakfast and lunch has diminished.

Fairly regular times, we have our evening meal [timely]; but lunch is sometimes difficult to keep to a set time because of work. It's hard to [maintain time]. And I always have [breakfast] regularly. (PII OM 01 SA; employed part time)

Once in the morning, in the morning I have breakfast – a piece of bread or half a banana. Bread with say jam. I don't have more than that – I could have more but deliberately don't! I have lunch quite late as I don't get up till quite late, I don't have to go to work or anything so I get up late. I will have breakfast about 12 after getting up, and lunch about 4 or 5. and then I have what they call [dinner] late – after 12. but I sleep late too, it will be about 2 o'clock before I go to sleep. (PII OM 02 AH; unemployed)

Yes we eat at set times. We have lunch after zuhr prayers so it would be about 1.15 or 1.30 and we have our evening meal at 8. (PII OW 02 RB; unemployed)

Dinner seems to be more or less always there. So I don't think I miss dinner very often. Evening dinner. Lunch obviously, depends on what…erm…I find quite often that I go without lunch. Actually, by 'quite often' I mean three, four days in a week. Three, four days out of five [working days]. So yeah, quite regularly I miss food at work but erm…dinner time is kind of okay. (PII YM 01 AN; employed full time)

I always have regular meal. For example today I had in the morning cornflakes, tea and biscuits. Then I had lunch – chips and [hot] wings, then, I will have dinner in the evening – rice and curry. (PII YM 03 MSS; employed full time)

No I miss breakfast. I sometimes miss lunch. Or I miss breakfast, have lunch but miss dinner. It's always like that. (PII YW 04 SB; voluntary work)

For the first generation taking traditional style meals at lunch and dinner, differention was made between what constitutes a simple meal taken at lunch versus a more substantial in the evening, one participant defining this as having 'only' one or two items versus up to five curries. This is markedly different to a typical UK family. A large amount of time and effort is obviously devoted to meal preparations which would be a good indication of the significance of the meals.

Lunch is very simple – we have one or two items. But the evening meal is always heavier. We have three or four items, or it could even be four or five curries. (PII OM 03 HRK; first generation male)

In the mornings I have breakfast rarely, a simple breakfast. At lunchtime I have only a sandwich-type of meal. In the evening mainly. A complete course, four five items, fish, dhal, vegetables and herbs, potato mashed. There must be a curry; there must be rice or roti. Full meal. (PII OM 04 MA; employed full time)

As with the meal time structure, there was variability, particularly between the generations, as to what actually constitutes a meal versus a snack and what components are required to be considered a meal. For the first generation there was an emphasis on having rice and curries, with larger meals being defined by the number of different curries available. If for some reason a curry wasn't available however then as long as some rice was taken they would be satiated which reflects the literature with rice being considered a 'cultural superfood' (Fieldhouse P 1995) as discussed in chapter two section 2.5. For the second generation participants there was generally a more relaxed view of what constitutes a meal ranging from a simple sandwich to 'anything' hot. For the second generation men in particular though there was more of a desire to have rice and curry for at least one meal of the day, being less of the case for the women. Overall there was greater flexibility if the definition of a meal for those who worked and therefore may not have had the opportunity for the more traditional pattern of two to three hot meals per day,

We have to have rice and curry all the time … But the children don't like it all the time. Sometimes they have chicken and chips, sometimes pizza, sometimes bread, sometimes noodles – they make various things for themselves. But we have to have rice at both meals. We can't do without rice even if it just a bit (PII OW 02 RB)

… lunch time and dinner time I obviously tend to have rice and curry or when I'm at work a sandwich, and like a orange juice or something to go with it.
(PII YW 05 YC)

My husband likes it. And I think like most typical Bengali men, even if they have other food they still have to have a bit of rice otherwise they are not full! (PII YW 03 SS)

A meal is enough portion of rice with chicken or whatever curry. The plate in front of me is filled with rice and curry. (PII YM 05 AH)

Like fast food, pizzas or burgers, we eat that, or chips or anything else really, but even after having that we still have to eat rice. (PI OM P1)

There is another reason for that, pizzas and fast food is mainly eaten out of the home, and when you eat outside the home, you never eat as much as you do when you are at home. (PI OM P3)

Hot meal. I don't know something hot like pasta, curry, rice, chips. (PII YW 04 SB)

Along with the changing meal time structure, including what constitutes a meal, snacking habits are also reflecting an urbanised and increasingly westernised lifestyle. Tea taken as a regular snack is diminished, with the family now being more scattered due to work commitments and the changing lifestyles of the younger generation.

First generation men and women are the most likely to continue to have tea and biscuits although the times vary and may be once or twice a day. Fruit, if taken, is usually in the evening and mostly by the men only. There may also be a little 'picking' between meals such as during meal preparation.

I eat a lot of fruit. I go out in the morning after having breakfast. After that at tea break time, I do eat a little something. I eat the mid-day lunch of course and at 4pm I have say, biscuits, crisps, that kind of thing. In the evening, after the meal, I really prefer fruit. I eat fruit. (PI OM 05 FA; first generation male)

The second generation men and women tend to snack in the afternoon between about three to five pm and will be a combination of biscuits, crisps, chocolate and possibly some fruit, and often 'eaten on the run' after popping into a shop. The second generation men are also likely to have a more substantial afternoon snack before the evening meal of chips, fried chicken wings or a burger. The snacking habits of the second generation reflect an adaptation of western habits.

So around 4 – 5 o'clock I would get a chocolate bar or buy a packet of crisps and have those. And fruits and stuff I'd usually have about 3 o'clock or just when I'm hungry or you know just before a meal. (PII YW 05 YC; second generation woman)

Crisps and sweets, chocolates. Probably a chocolate bar than a snack, or if not, maybe a portion of chips, ready-made – that's all we know, rice, curry, chips, burgers, hot wings and chickens, no fruits, sometimes fruits. (P1 YM P2; second generation male)

The final theme uncovered in relation to mealtime structure has been defined by the In Vivo code[55] 'come to the table' which describes whether or not families are continung to share meals together and the changes being seen between the generations and genders.

[55] A code using the actual words of the participant

Participant's discussed the value having meals together as a family however this appears less so for the younger second generation men and is being affected by altered lifestyles. Many noted that their families continue to attempt to gather for evening meal although may be later than wish. For others it was only the weekend meals that have retained this structure and therefore seen as particularly important; often the only time the family gathered.

"Its important to me – I introduced it to my family – they laughed at me! They said, 'what you been watching too much TV?' I would like it but …. I've got younger brothers they're out more, so to try and get them in to have a meal, they don't see the benefits of that, so its kind of difficult to get my family together, but then if I had it my way I would get them in." (Second generation female)

There is fish. There is dhal, vegetables. Three or four items. There is no difference to me between a meal and a family meal. To me family means sitting down together with children, that's not important to me. The same food I can eat in a restaurant but the whole family won't be there. (PII OM 04 MA; second generation male)

Eating with the family is important. Eating with the family you get to do this: the day's events and conversations, often you can talk about many talks. We eat whatever has been prepared. We get together and eat that. On some days, say for the evening meal, we may have boiled foods otherwise the rice. The children very often like to eat other foods so we go along with them (PII OM 05 FA)

The major influence on meal time structure, whether this be the regularity of the meals taken, what constitutes a meal or snack, or the ability to sit together with family to share meal, is that of changing lifestyle patterns as a consequence of living in an urban, westernised environment. Many members of the family are working, for some irregular hours, and including the second generation women, which significantly impacts on opportunities to have shared traditional meals as was the case in their homeland. Despite the changes however and reducing opportunities the importance remains of the family meal does remain for many.

6.0.1.11 Eating away from home / outside food

Notable differences are being seen with respect to the attitudes towards eating outside the home. First generation men and women continue to follow traditional practices of mostly consuming food within their own home or at the homes of friends and relatives. If outside food[56] is consumed it is an infrequent event although there were a few exceptions amongst the men. Generally, outside food is considered to be less healthy and substandard to food prepared at home.

[Occasionally] we might buy something to eat together and on a very [rare occasion] we might eat out, like at a [fried chicken] shop. (PII OM 01 SA; first generation male)

[56] Terminology of the participants

Weekend-eating has nothing to it, can be Western, British, Italian, Chinese, junk food, fast food, invitations too. (PII OM 04 MA; first generation male)

Sometimes the children will bring food from outside to eat at home, but we generally only eat outside if we are travelling, otherwise we don't tend to eat out. (PII OW 05 RB2; first generation female)

… but I found that after eating the food I was uncomfortable because it was too oily. When I cook I use a tiny amount of oil. (PI OW P3; First generation female)

The second generation respondents on the other hand consumed food much more readily outside the home as both snacks and meals; although there were mixed feelings about this and many still value the foods provided by the family. Food eaten away from the home was usually with friends versus the family unlike the first generation and there is a greater frequency amongst the young men.

At lunch time every day at work I am eating chips, chicken and wings. Pizza and these things only when I go out sometimes. (PII YM 03 MSS; second generation male)

Yeah, yeah, yeah. I would say, yeah people would cook less and you know, just go to take-away. (PII YW 01 RB; second generation female)

…not that often, maybe once a month as a family together. Sometimes, maybe a bit more frequently when we do it with our friends. (PII YW 03 SS; second generation female)

It was noted by a few of the first generation women that their children like to eat outside the home as they feel that it makes their lives easier by not having to do the cooking however the women themselves prefer to cook.

They like it and sometimes they think that if they get food in from outside then they will be making our life easier by giving us less to do, but we prefer to cook. And they say that they prefer home cooked food too … My daughter says it's because I work hard and she doesn't want me to do that. To make my life easier. They like to take me out. They understand that we work hard. There was a time when I was cooking all the time, it was all I did, there was always people coming around, now so many people don't come, and if they do then I'm quite happy to take them out. It's easier. (PI OW P3; first generation female)

They tell me that I won't have to cook so much if they eat out! But I don't like it. If they eat out one day I insist they eat at home the next day. We just fight about it like that. (PII OW 03 RS)

It appears as though it is the young men who are most likely to eat the unhealthy western take-away foods on a regular basis, with both the young men themselves and other participants reporting this trend. This unhealthy trend is likely to become a very big issue for the second

and future generations with the poor habits being formed likely to be difficult to change. A recent qualitative study for the Food Standards Agency (FSA) on SFA & TUFA[57] shows that men overall have less concern for their diets although there are many other reasons for this trend which shall be highlighted throughout this chapter such as the influence of taste and peer pressure, and will be discussed in chapter nine.

My sons eat out more! They just bring it home; they have their own money too. She does it too, but less…She doesn't really go out as much, she comes straight home from school. And she's not really that bothered about it either. She has it sometimes, they bring it home for her. (PII OW 03 RS)

Yeah my brother has chicken and chips – outside food more than house food. Yeah, he does. (PII YW 04 SB)

I'd say there are differences in the way that me and my brother eat, he tends to eat out a lot and he eats a lot of unhealthy junk food that I would consider, erm, yeah he hardly eats at home, he tends to eat out and erm, he usually has dinner, but he hardly, hardly, very rarely has lunch in the house as well, so I think there's a big difference in what I eat and what he eats. (PII YW 05 YC)

Even though this trend towards a high intake of high fat take-away foods is prominent there are a number of exceptions noted which at least in some cases were largely as a result of religious convictions and wanting to improve their health.

Even when I go to university I just take my own meal, food, so it'll be like sandwiches, tuna sandwich, and bananas, apples, and just water. (PII YM 02 ZK; second generation male)

Probably once a week, only if I'm out with some friends then that's the only time that I eat out. You know eating out is not, its not basically my kind of thing, I rather be at home then have good food, I'd rather wait, but maybe I'm stuck somewhere and then I'm really hungry, that's the only time I would eat outside. (PI YM P2; Second generation male)

Amongst the vast majority of the participants, whether they ate the high fat, high salt, fast-foods and take-aways regularly or not, and whether or not they enjoy eating the food, had very negative views about its quality and acknowledge that it would be poor for health. There was recognition that the availability of the high density of 'fast food' outlets was disproportionate, particularly when compared to venues offering healthier options thus impacting on the intake of these foods. Furthermore there was insight into to the fact that while people pay so little for the food, the long term cost to there health is much greater.

[57] http://www.food.gov.uk/multimedia/pdfs/satfats0705.pdf

"Its not good food there though. All [fast foods] aren't good." (PI OM P3; First generation male)

But like us, we play football, we used to tend to stay a bit fit, but like, when the new generation they don't bother, there's too many fast foods, you know its all fast food innit? (PI YM P1; Second generation male)

But people don't realise the harm that this is doing, you get so much for so little. (PII OW 05 RB2; first generation woman)

PFC is seen to offer the poorest choice with respect to the availability of healthy options however appears to be the most common take-away store used by the Bangladeshi community, due, as has been discussed in the interviews, to the taste which is spicier than other outlets and the fact that they claim the meat is halal whereas in larger establishments such as KFC (Kentucky Fried Chicken) or McDonalds the only option will be the fish burgers. Consequently, even if outlets such as McDonalds are starting to reformulate their products it will not have a significant impact on communities such as this.

PFC is the one that's the most unhealthiest, very few PFC's also have healthier options. I don't really eat at Burger King or McDonalds, but I suppose they fall into the same category. (PII YW 03 SS; second generation female)

Bangladeshi cafes and restaurants, opposed to the fast food outlets, were infrequently used by the community participants, a trend that has been noted from previous research (Carey S 2004). The reasons provided tended to be due to both the taste and the quality of the food. The food in the restaurants was, for the majority, not considered to be Bangladeshi (or Indian) but rather produced purely for the local (indigenous) market and not a reflection of traditional cuisine and therefore did not suite their taste. There are exceptions to this opinion but they were infrequent. With respect to the quality, the primary concern was that the food was too oily and therefore very unhealthy, but there were also concerns regarding the meat used, and poor hygiene.

No, I never eat out like that. If I go to a wedding then you have to eat restaurant cooked food, what can you do then? I eat it then. (PII OW 02 RB)

It is for the [Western market] it is not [real Bangladeshi food]. Apart from one or two [exceptional] places, I think that [99%] is for the [Western market]. It is not [real Bangladeshi food]. (PII OM 01 SA; first generation male)

I know this from experience because I used to own a restaurant. The…typical Indian restaurants don't sell …sort of… food that are really from India or Bangladesh. They're more kind of manufactured or designed in a way that attract the people around here, so you know, middle-class white person for example. They colour it up, they butter it up, they… there's no such thing as a sweet curry, but then they have a korma, which is really sweet. There is no such thing as sweet curry in Bangladesh – or in India, so no, I think 99 per cent of the food that Indian [Bangladeshi] restaurants sell is not Indian [Bangladeshi] at all. It's called Indian because of the

spice element … I mean there area a couple now. I know in Brick Lane a couple, they serve traditional Bengali food, some of them cook better than my mum does, so yes… that's like one in what…? Two, I don't know, in the whole of the UK. Not that I'm saying I've been to all the restaurants in the UK, but 102 out of a million, I would say! So it's pretty rare. Generally, on average, the majority of the restaurants that sell food, no, they don't do Indian [Bangladeshi] at all. And healthy-wise, no way! (PII YM 01 AN; second generation male)

Personally I think they…can't prepare real Bangladeshi food. Because to do real Bangladeshi food the customers that there are…they might not even prefer it. It's with their choice in mind that they serve up what they do. They satisfy customers by doing it in a Western style. I wouldn't say it's Bangladeshi food or healthy food that is prepared. Maybe some restaurants do it… they may have the experts and the knowledge, but I don't think all the restaurants do it. (PII OM 05 FA; first generation male)

Definitely not! For one factor they don't taste half as good and also I know they tend to have more oil and you can notice it. And the chicken - they're not really cooked thoroughly – you can kind of tell. Generally they tend to have more spices, more oil on them, even with the vegetables, it just doesn't seem fresh. So, yeah I would definitely say it doesn't represent home cooking. (PII YM 05 YC)

There were a few opposing opinions in relation to the food in restaurants, as while the majority of people interviewed believe that it is westernised, some consider it to be as good or better than home cooked although this view was more usual of second generation respondents, a reflection of the emerging differences in food culture between generations.

It is real Bangladeshi food but a little bit different like less spice, less hot, chillies and things and more colour. (PII YM 03 MSS; second generation male)

Furthermore, unlike other participants, AB, a second generation male feels that the Asian restaurants actually are catering for the Bengali community and it's just that other people are starting to go there as well.

It's quite different because they do a lot of different traditional dishes which we even don't know about and sometimes it's Indian as well… Mostly for Bengali people, but nowadays white people and black people like yourselves[58]*.* (PII YM 02 AB; second generation male)

Eating away from the home, whether in restaurants or fast-food outlets is very much influenced by social relationships with family and friends. The first generation often consume these foods as a consequence of either taking their children to the outlets of their children bringing the 'outside food home. The second generation are most likely to be influences by their friends and very much enjoy the social aspect of eating aways from the home.

[58] The interviewer was actually a Bangladeshi herself.

If they see the McDonalds sign and want to eat McDonalds then [okay], we have to eat it too. (PI OM P1; first generation male)

The children bring food from outsides sometimes and I might have a little with them, just for them. (PII OW 04 MB; first generation female)

I mean I do remember last year it was, I think it was the highest peak in my life where I've ever eaten in restaurants and that was because it was with mates and stuff like that and trying to bond a brotherhood and eating, and stuff like that. (PII YM 02 ZK; second generation male)

It's just not eating from home basically! It's just nice to be like socialising with people sometimes, just not eating at home. I think that's the main reason.
(PII YW 05 YC; second generation female)

6.0.1.12 Summary of socio-cultural influences.

A number of socio-cultural influences on food choice were identified through the interviews, some themes originating from the literature and being extrapolated on by the community participants, and others from emerging from the data itself and using the language of the participants themselves.

Islam forms the basis of the Bangladeshi social structure and as anticipated was noted to have a significant impact on the food choices made. All of the participants without exceptions emphasised the importance of foods being halal, additionally however the second generation men in particular emphasised that health messages echoed Islamic teachings with emphasis choosing a healthy lifestyle by maintenance of physical and spiritual health via healthy food choices defined as avoidance of gluttony, regular intake of fruit and vegetables and lean meat, especially fish, the avoidance of poor quality foods such as the high fat take-aways which are ubiquitous in the community, and regular physical activity.

The Bangladeshi food cultural practices remain relevant and strong for both the first and second generations although traditional lifestyles are being eroded with evidence of a culinary transition although the extent, manner and timing is variable within the population. In particular this is affecting patterns of cooking and preparation, the specific types of meals cooked, meal time structure and snacking habits, and where meals are taken with many now purchased and / or consumed outside of the home.

For the first generation rice remains the staple food, continuing to be closely linked with identity although many first generation participants expressed concern that they were often told to reduce their portion sizes which was seen as a near impossibility. The intake of fish, traditionally a staple food, which had seen a marked decline following immigration to the UK, being substituted by the more readily available meats such as lamb and chicken, has in more recent years seen a resurgence in intake, especially amongst women, as an apparent

consequence of both increased availability of imported Bengali freshwater fish and concern for health.

The second generation, whilst also still identifying with the traditional Bangladeshi food culture, are now eating a large portion of the meals outside of their home with high fat, cheap, fast food dominating, especially amongst the men for their lunch time meals. And whilst the traditional role of women being responsible for food preparation remains, there has been a notable change in cooking practices and preparation with many of the young women finding their new lifestyles too hectic to spare the time. The coherence and relevance of traditional cooking is being undermined as contemporary living demands quicker, easier and more flexible solutions. As with the UK populations as a whole, the Bangladeshi community is seeing the emergence of a loss of culinary skills and a greater reliance on take-away foods and quick, 'English' meals such as pasta and pizza, especially when not living in a traditional family unit. Lack of food literacy and cooking skills with respect to non-traditional foods is one of the main factors contributing to the limited range of non-traditional foods purchased and prepared.

Despite the increased consumption of fast foods amongst the second generation in particular, convenience foods with respect to ready meals are not generally consumed amongst either generation, much as a consequence of not being halal but also due to the preference for fresh foods. The first generation in particular prefers not to have food that has been kept in the refrigerator or frozen, with the exception of some vegetables, a preference which has its roots in the rural food culture in Sylhet where food is freshly picked or killed rather than being stored.

There have been a number of changes seen to the mealtime structure. Breakfast is the least important meal and generally consists of western choices such as cereals or toast. There is variation both between and within generation for the lunch time meal, with some continuing to have traditional selections if they do not work or are able to return home from work for the meal. For many who do work however this meal is becoming commonly taken outside of the home is will often be a quick, convenience meal such as a sandwich but more often high fat fast food such as fried chicken and chips. The evening meal remains important for the majority although the ability to share this meal with the family is reducing with absences often a consequence of work and study. The young second generation men were the least likely to attend the evening meal, opting for take-away instead, being 'bored' with rice and curry. Amongst the second generation there has been an increase in snacking habits compared to their parents, for the most part being energy dense options such as crisps and chocolate in preference to fruit. The first generation men were the most likely to report having fruit as a snack between meals. Eating foods outside of the home has become commonplace for the second generation participants and in particular the high fat take-aways which are prevalent in the borough. These take-away foods are taken both as quick meals at lunch time and for some, shared with their families during the evening. Those second generation participants, who may be considered more affluent, were also likely to enjoy going to restaurants for cuisine such as Thai, with the friends in the evening. Few of the participants however, either first or second generation, were

likely to dine at the Bangladeshi restaurants which they saw as predominantly catering for the English palette and served food which was were inferior to what was made within the home.

Food purchasing practices sees patriarchal segmentation within the first generation with the men being responsible for purchasing food for the household, especially the meat which is bought from local Bangladeshi butchers. There is greater variability for the purchase of fruit, vegetables and cupboard items, being purchased by either the men or women, on their own or together. The location for these items is also variable from local markets, to Bangladeshi grocers and mainstream supermarkets. Choice of retailer can be based on perceived quality, convenience and availability of the desired items.

Moving to the knowledge and attitudes with respect to health, as well as sources of information within the community, class, level of education and family history all played a role. Class and education was only mentioned by a few as having an influence on food choice but those that did felt quite strongly that those who were more educated and affluent were more likely to make healthy food choices and showed greater concern for their own health. Conversely, those who had minimal education, whether they were the first generation women or the youth who 'hung around on the streets', were seen as having poor health knowledge, often making poor choices. For the women at least this was not seen to be their fault but a consequence of their lack of opportunity. Family history, unexpectedly, did not emerge as a strong motivator for making healthy food and lifestyle choices even though it was recognised that this would be a plausible and logical reaction. Where positive changes were made it was only following the death of a parent as a consequence of heart disease and in the case did result in major dietary change.

A wide range of avenues were identified as sources of health and dietary information with the mosque and local community centres being the cornerstone for the first generation, being culturally and theologically appropriate as well as being important centres for socialising. The role of the health professional was also identified, especially general practitioners, although there was a significant amount of scepticism about their knowledge and understanding of health in a holistic manner, many seeing GP's as only suitable to dispense medication. Imam's who whilst highly respected were also not necessarily expected to be the most appropriate source of health information. Dietitians and nutritionists, where there role was understood as a consequence of having contact with them either directly or from accompanying a family member, were seen as valuable sources of diet and health information being experts in the subject. Family and friends were also seen as important sources of information being, healthy lifestyle habits often being learnt via role modelling.

The largest source of information however was the various types of media, print, audio and visual. Many noted that information was now readily available except for first generation women who may marginalised due to often being isolated and having poor language skills and literacy in English and/or Bengali. There were opposing views as to the value of written information such as leaflets not being a particularly engaging medium, whereas mediums such as television, both mainstream and the local community channels, is preferable. Advertising on the

other hand was seen to have a negative influence on food choice but was a powerful source of information. As such, the concept of social marketing was proffered to promote healthy rather than the unhealthy food choices which many thought was absent.

A system map with thematic clusters of the sociocultural influences on food choices is illustrated in figure 6.1. To give an indication of the strength of the responses the connectors have been weighted; those with the thickest connectors being most strongly recognised by the community participants as having an influence of their food choices. The complexity of the influences is indicated by the multiple numbers of cross-references between theme clusters. The next section will present the psychological influences on food choices as identified by the community participants.

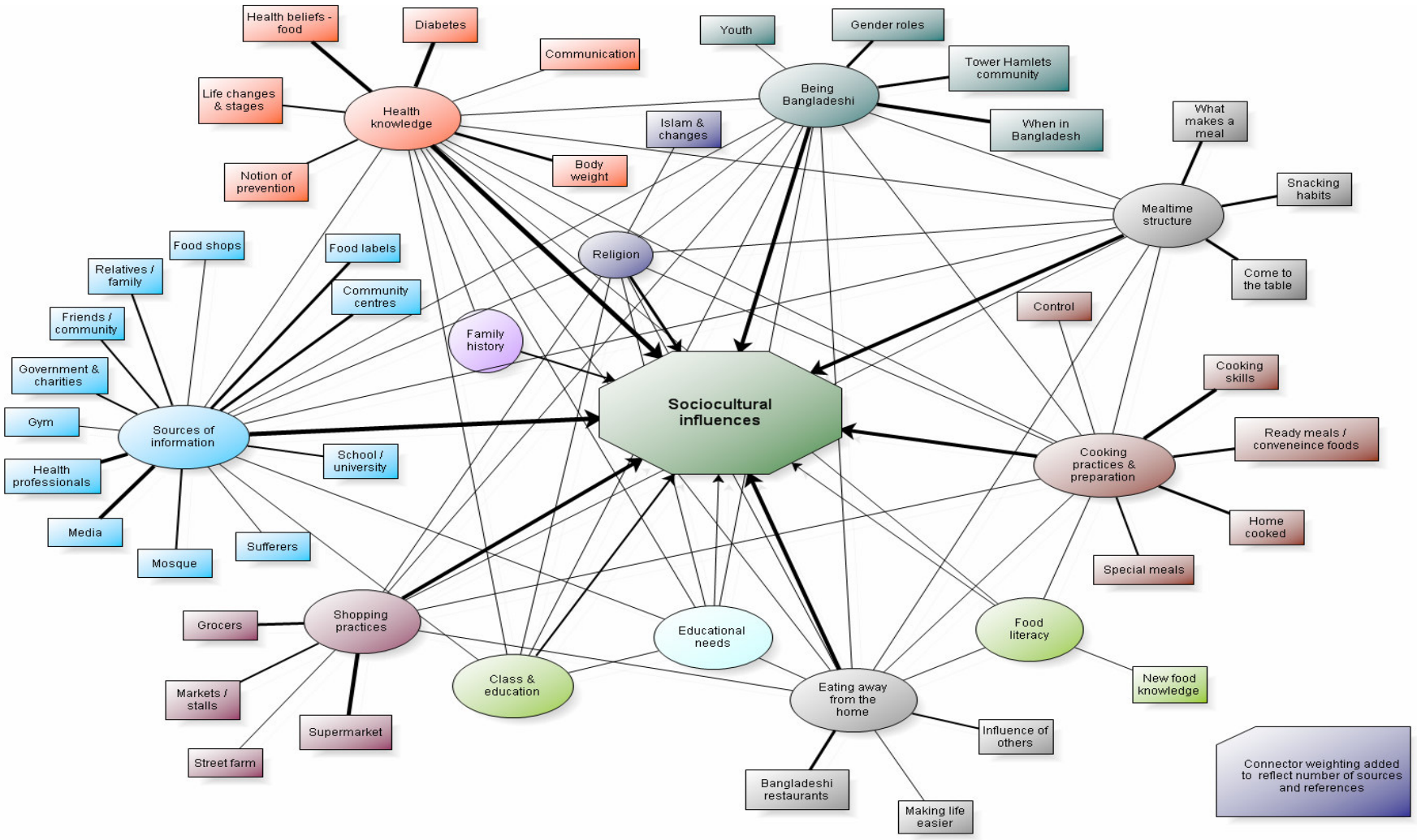


Figure 6.1 Socio-cultural influences on food choices

6.0.2 Psychological Influences

Food choice is influenced by a wide range of factors including psychological which is the next theme cluster to be presented. The themes outlined in this cluster have emerged from the interview data. Social psychological attitude models, such as the Theory of Planned Behaviour have been described in research and shown to be good predictors of behaviour (Shepherd R 1999).

The specific research questions being addressed in this section are:

- What are the attitudes and beliefs in the Bangladeshi community towards food and food behaviour?
- What factors contribute to the maintenance of *Traditional* food practices?
- What factors contribute in both groups to making healthy dietary and physical activity choices?
- What are the barriers to accessing healthy food options?
- What are the consequences of government policies and programmes to date?

6.0.2.1 Addiction

When discussing the changing dietary habits of their children a commonly used phrase of the first generation participants is that of 'addiction'. Many of the respondents have the view that their children eat very little other than fried take-away foods and in particular the fried chicken and chips as a consequence of being addicted.

And some children have become addicted to it, they are so used to it they won't eat anything else. (PII OM 02 AH; First generation male)

They have to eat out two or three times a week, otherwise it won't do! (PII OW 03 RS; First generation female)

This view is supported by the responses of the second generation who admit that they too feel that they must have these foods.

It's that, it's the addiction I think. Because you cant just go out and have a pack of crisps and be satisfied because you want, you're probably going past the shop and you see the fried chicken and then its very tempting and you just go on and you just buy the food and then you regret it, why did I have this? (PI YM P1; second generation male)

I wouldn't be able to live – I don't know about other people. (PII YW 02 AB; second generation female)

6.0.2.2 Advertising

In additions to advertising being seen as a source of information for the participants, many noted the specific influence of advertising on their food choices. Advertising includes both broadcast and non-broadcast media such as billboards, health claims, checkout placement, and two-for-one deals.

Oh yes, as soon as they see it on television they start saying 'that is good, this one is tasty' without even having tried it – they sit here at home and choose what they are going get! (PII OW 02 RB; first generation female)

Can you imagine yeah, when we were children, you see the Frosties TV advert and you think to yourself, 'mm need to have Frosties, yeah'. (PII YM 02 ZK; second generation male)

[T]here needs to be some sort of control into what we try to sell to people – because that's what they do isn't it? They encourage people to – it's just an information it's actually persuasive. (PII YW 03 SS; second generation female)

This influence of advertising was perceived as having a particularly influential effect on youth.

6.0.2.3 Body image

There was a mixed response in relation to body image although more of the respondents did not see this as a consideration, especially those who were quite slim, and for the young men the main interest laid in their physique with respect to muscle development versus concern about weight per se. Those who had gained weight however were concerned about this, for example having a 'large stomach'. Furthermore none of the participants noted being influenced by a cultural perception of 'fatness' being a sign of good health or wealth.

I don't have any of those type of cultural things that if you are fatter you are richer. I think it's not a good thing to be fat. (PII OM 01 SA; first generation male)

Of course. I think about that all the time. I have so much [tension], even so I want to keep slim, control my eating – but if it still doesn't work what can I do? (PII OW 05 RB2; first generation female)

I think, because… as you probably can see, I'm quite skinny [laughs]. I'm quiet slim anyway, erm… body image has never been an issue for me. I've never said, "I'm not going to have that, it's fattening". (PII YM 01 AN; second generation male)

Very important. I want to look healthy and be fit basically. It's really important to me. (PII YW 04 SB; second generation female)

No, I think I'm fine. I don't get influenced by those stuff. (PII YW 05 YC; second generation female)

Overall the participants have taken on a more western medical view of body weight, associating overweight with poor health rather than prosperity. There is also the perception that despite best efforts it is not necessarily to avoid gaining weight.

6.0.2.4 Brand

Only the male participants, with one exception from a second generation female, voiced brand as a factor influencing their food choice reglardles of gender however they were still in the minority.

Where brand selection was important, this related to both specific products and supermarkets which were closely associated with perceived quality as well as the influence of their children and products known to be halal. Conversely, a few of the second generation male participants stated that they were not influenced by the brand at all.

Yes, of course Kellogg's. That's just; I do that not just corn flakes but any cereal I will only get Kellogg's. Because that company is associated with cereal now. It is stuck in your mind. Even when I buy crisps for the children, I don't eat crisps myself, the children have it, but I have to get Walkers, if I get anything else, say Sainsbury's own brand then they moan, 'why didn't you get the other one'. (PII OM 02 AH; first generation male)

The vegetables and leaves that we buy from Sainsbury's and Tesco's we generally assume that they have cultivated them properly … looked after them well. That's how we determine that that which they offer is surely of a good quality. (PII OM 05 FA; first generation male)

I go for the brand name. I think if it is a good brand they will give you best quality. (PII YM 03 MSS; second generation male)

Quite important I would say – I always look at brands! I would never buy anything which says 'economy brand'! … It's just, I just think it's all recycled basically. You pay cheap products and it all comes back recycled again. So I would prefer to go for my more expensive foods, that way I know it's a bit more healthy! (PII YW 05 YC; second generation female)

Brand *per se*, was not perceived to be a strong influencer of food choice for most, rather type of outlet with supermarkets frequently being held in high esteem with respect to the quality.

6.0.2.5 Convenience

Choices made based on convenience affected all aspects of food consumption including shopping practices, the types of foods chosen, where food is eaten and types of foods cooked.

Convenience of food purchasing was important to the majority of participants; however influence on cooking practices was more dominant for the second generation participants.

No, I don't have the energy to do all that. And I am not really bothered. I just go to my usual shops. And most of the shopping now I do from the big shops. You know the local big shops you have – Tesco on this side, or Sainsbury. Apart from fish and meat, the other shopping I do from there – not 100% but most of it. Some I do just at the local shops around. (PII OM 02 AH; first generation male)

That depends where I am, what is most convenient when I am out. (PII OW 01 SB; first generation female)

We both work and we are both very busy, so most of the weekdays we have a single food. (PII YM 04 AS; second generation male)

Things like, well junk food – something that's quick 'cos I'm always busy working and doing our own stuff, so. (PII YW 02 AB; second generation female)

And we all prefer to go there for some reason. I think its quick – its given to you quick and you can take it or you can eat it there. (PII YW 04 SB; second generation female)

The one area that was highlighted as not being influenced by convenience was where religion was involved, in which case the food being halal was of greatest importance.

We take that extra step to you know, forget convenience and drive that extra mile and get that, yeah. Convenience flies out the window when it comes to anything to do with religion and the halal aspect of things. (PII YM 01 AN; second generation male)

Whilst the importance of convenience was reflected in food procurement, preparation and venue, the need for convenience was itself was most strongly influenced by lifestyle factors, especially work, a factor more common amongst second generation participants, both male and female.

6.0.2.6 Emotions

A range of themes were identified relation to the emotional aspects of food choice and food consumption such as pleasure and the social aspects; boredom; temptation; trust and value. Very few noted emotional influences in terms of feeling of sadness and 'comfort' eating.

The Bangladeshi community is widely noted to be passionate about their food culture, with cooking food and sharing food being integral to being Bangladeshi. For the second generation in particular however, the sharing of food has moved from predominantly visiting the houses of relatives and friends to eating out, whether simple take-aways or at restaurants.

We are Bengalis, so we are immersed in the 'social eating' culture, for sure! We invite and we get invitations. (PII OM 05 FA; first generation male)

When I am feeding people I always think about feeding people well. If you give good food and feed them well then people will be happy. I don't really think about [status], but I do think about what will make them happy – what they would like to eat. (PII OM 01 SA; first generation male)

Like at Christmas, my children said lets go out and eat, there's no point in you working hard in the kitchen lets all go out. So we did and that was nice. It there's a big party then it's nice to go out. (PI OW S; first generation woman)

[T]he hard work you've put in to cook…so you know, when you eat, you feel more happier! [laughs] So I enjoy cooking for myself. (PII YM 05 AH; second generation male)

It's just not eating from home basically! It's just nice to be like socialising with people sometimes, just not eating at home. I think that's the main reason. (PII YW 05 YC; second generation female)

AS, a second generation male eats away from the home on a regular basis with the choices usually fast food style restaurants. AS is married with two children notes that they eat away from the home, once or twice a week these venues also tend to be fast food style restaurants which are chosen for the pleasure they provide. He acknowledges that the food that they serve is not healthy but that is not the reason for eating there. This represents one of the juxtapositions often noted between what actually influences peoples food choices versus what many health professionals and public health campaign focus on; healthfulness being a significant determinant. AS also illustrates the effect of the second generations changing eating patterns on the next generation, possibly setting their children up to establishment of a taste for these types of foods and thus poor dietary habits.

Obviously it's like … just to have a good time. Kid enjoy it. Obviously you know it's not healthy. It's not right food. But we just do. (PII YM 04 AS; second generation male)

Eating out of boredom or from cravings for particular foods was mentioned by a few but was not a dominant theme. In one instance it was noted that while the children are very health conscious it was in fact the first generation parents that had the cravings for the high fat take-away foods.

Often times, even when we want to [eat healthily] because of out hankering for it, we can't do it. You must imagine, fatty foods – chips, fries, all such things we get it, but the children are very health conscious. (PII OM 05 FA; first generation male)

Red Bull! … I just love it! Oh the craving for that sugar. Seriously … It does give me wings! It does make me hyper! But I eat it more probably like – oh my god this is so bad – after a kebab!

Or a biriyani, it's so unhealthy I know, but after sort of fatty food I get craving for fizzy drink. (PI YW P2; second generation female)

A final theme relation to the impact of emotions on food choice was that of trust. Trust in the suppliers of food was a significant determinant of where foods where bought as well as the intake of foods prepared outside of the home. In relation to food outlets, the trust was related to the quality of the food as well as religious factors.

Most of our food is from the supermarket, I just don't really trust the Bengali shops. (PII OW 03 RS; first generation female)

I know Asda's do halal meat nowadays, but I still haven't bought any. I'm sure they're halal. I'll give them…I trust them…just hard to get through to my head I guess. (PII YM 01 AN; second generation male)

No, home made food is better because ready made you can't never trust how they're packaging and you can't trust what hands has been touched by it, they're probably not even washing hands. Maybe with home you can tell your wife to wash your hands before you do everything. And with ready meals, even if we go to a fast food restaurant, not everyone is doing their job properly, once you have the meat you've got the red bits inside and it like they just want to get rid of the food and make the money. But with home food it's different, you have it with the family and they take extra care of it. (PI YM P1; second generation male)

And especially with men – I don't trust men and cooking! I don't think they've cooked it properly, so I always tend to go for vegetable dishes when I'm outside, so I always go for anything that's got vegetable in it basically. (PII YW 05 YC; second generation female)

Overall, the social pleasure aspect of food choice remains important to members of the Bangladeshi community although between generations the difference lies in the actual food choice and venue consumed, with a move away from traditional foods taken at home to sharing foods with family and friends in restaurants, including fast-food style venues. For those who preferred to have food prepared within the home, the main influence was the perception of quality. For those eating fast foods, taste and pleasure overrode any concern about the health impact.

6.0.2.7 Ethical and moral considerations

Very few participants expressed any ethical or moral considerations for their food choices, even when asked directly, with a few significant exceptions, all of which however related to different issues.

One participant expressed concern over the demise of the local shops and businesses as a consequence of the supermarkets moving in. While stating this however it does not appear to

influence his food purchasing practices, continuing instead to shop at the supermarkets due to the convenience, except for meat which is purchased from the local Bengali grocer for religious reasons.

Now where I am living, the big shops have come in and destroyed all the smaller shops, by big shops I mean Sainsbury and Tesco, and they have even opened a Tesco metro. So these are taking all the business and the smaller shops are closing. (PII OM 02 AH; first generation male)

Once again, religion played, with ethical considerations being related to the avoidance of food waste and the evidence of excessive eating as well as avoiding poor quality food items.

Religion is important. Our religion is Islam. And under no circumstances, if just one handful of food goes to waste, that to me is [unacceptable] in the religious perspective. Excess eating is also not like by me. If someone comes to my house by invitation, fine, they may eat – I won't exactly stop them, "Don't eat", but if I go to anyone's house, I am always measured in my eating. If there is a curry, you'll see some people will get two helpings, sometimes three. I will get the one curry just the once. I just get the amount needed, eat the amount needed. I am conscious of wastage. (PII OM 04 MA; first generation male)

And then this Ramadan it was a bit of change for me, and then you look at society, and you think like, not only our society but as a whole world, and how many people are suffering? You think to yourself you have all this waste junk food, coca cola, or crisps or drinks and you will spend a lot of money on it. (PII YM 02 ZK; second generation male)

Ethical issues in relation to fair trade, animal welfare or environmental concerns were consistently not considered amongst the interviewees when making their food choices. So while such ethical concerns may be increasingly considered when making food choices in the wider community it does not seem to be the case within the Bangladeshi community.

No I don't think about those things at all. (PII OM 01 SA; first generation male)

I should think about it, I know, but I don't. That's the honest answer. I don't know. It doesn't bother me. Erm… I just…see what's out there. I'll probably you know… look out for two or three different brands, go for the cheapest and that's it. I don't, I should I know, but I don't look for the environmental factors and things. (PII YM 01 AN; second generation male)

There were two exceptions with respect to fair trade and animal welfare. ZK, a second generation male who recently heard about such issues such as fair trade while at university and feels that this is something that he will begin to consider. ZK has not thought about animal welfare however, so while is planning to act on information with respect to fair trade has not pursued the ethical considerations further at this stage. The second exception is FA, a first generation male who while being aware of the issues feels that he is unable to have any influence in relation to animal welfare practices. In the respect, FA does not recognise the

power of the consumer in relation to food purchasing practices having an influence on food supply.

To be honest I didn't before I knew about it. Last year I came across, in university I came across a stall where it was being talked about. And I just roughly heard about it, but just like last week, one of my nephews was doing this survey about fair trade, and I think personally I would go for fair trade even though it was more expensive or whatever or organic, I would still go for fair trade, because its more, its better. (PII YM 02 ZK; second generation male)

There is awareness. But as we are Muslims, we believe such that there so long as it is slaughtered in a halal way, we can eat it. Sometimes on television programmes show that chicken are brought having been kept in a poor state. We do feel sorry then I saw a programme on Holland, where chicken and sheep were brought from Holland which was very unhealthy. We do feel discomfort when we see that. Because for a bit of money-making people do this… We can't do anything about it. We merely buy from the shops, not as though we buy live animals. Still we ask [around]. There are some shops that bring in fresh and slaughter them … we follow them mostly. (PII OM 05 FA; first generation male)

Ethical and moral considerations played very little part in the food choices made by the Bangladeshi community participants, so with a very few exceptions, this would not be a trigger for influencing change except where they can be linked to their theological beliefs.

6.0.2.8 Organic produce

The first generation men, and the second generation men and women expressed a desire to have organic foods based on a perception of their superior health benefits and quality rather than ethical considerations such as environmental impact of intensive farming. First generation women however did not identify organics as a factor influencing their food choices. The ability to purchase organic foods based on affordability was a separate issue however which shall be discussed in section 6.0.3 "environmental influences".

For me, for my children they can fall ill, it can cause problems so i buy organic foods, it's mainly for then that we try to get organic food, if they have other foods it sometimes disagrees with them. That's what we've found anyway, we can have everything, we can mix food. But for children I try to get organic food for them, but it is more expensive. (PI OM P2; first generation male)

What, 'organic', I've never heard of it. (PII OW 01 SB; first generation female)
I personally processed food I'm not too much for it, I'm more towards the organic side. (PII YM 02 ZK; second generation male)

Well I tend to, when it comes to fruit and vegetables I tend to go for organic, I prefer organic food. (PII YW 05 YC; second generation female)

It was noted by the first generation participants that the food in Bangladesh is naturally organic therefore something that hasn't needed to be considered in the past in the rural community in Bangladesh.

We may have been born in a poor country but in our country even if you buy a simple vegetable there is nothing extra in it. It's straight from the ground that it was born in to. It may be small, but it's the way it was meant to be. In this country, whatever you can think of, you may think it looks nice, its not just [fertilizer] in it, there's much more. All of the stuff in it goes in to the people. (PII OM 02 AH; first generation male).

The ability to buy preferred foods such as organic produce due to affordability and reflects a level of food insecurity although this is not restricted to this community and for the majority of the population organic food is still somewhat of a 'luxury'.

6.0.2.9 Habit

Food habits are acquired early in life and once established tend to be long lasting and resistant to change (Fieldhouse P 1995). A number of references were made by the respondents which reflected that some of their choices indeed were based on habit and tradition, continuing to make choices based on what they've always had and grown up with. The habits were noted especially for the maintenance of traditional food choices for both generations. New habits are however being formed by the second generation, and younger, for Western foods and particularly the fast foods but not so for the first generation.

I had to cook for myself in those days. And it wasn't anything extra or different it was all according to the old [system], the same old spices, Asian spices. And I still eat in that same way. Because that habit is from my childhood. (PII OM 02 AH; first generation male)

But we grew up in Bangladesh – you know what they say- rice and fish make the Bengali, the flavour of Bangladesh is rice and curry, I have grown old and even now I feel that I would die if I didn't have rice for even a day! (PI OW P3; first generation female)

I suppose it's tradition… you just lead on… Probably because of the culture… I think that is the reason. (PII YM 04 AS; second generation male)

If a child has fast food once a week that is alright, but there are lots of children who have become [addicts] the way that some English people have become [addicts] to Indian food. Even though that is not his [national] food it has become a habit. (PII OM 02 AH; first generation male)

It was also noted that people such as restaurant workers had developed their own distinct habits resulting from becoming accustomed to the restaurant style food rather than that prepared at home.

You'll find a lot of restaurant workers don't like to eat at home. They prefer to eat there – they have got in to the habit of eating that way. (PII OW 03 RS; first generation woman)

Further to habit affecting food choice, habit also impacted on meal time structure and specifically the times meals are taken in relation to the lateness of the evening meal.

That's quite late! I know its quite late time, but that's the way we've grown up! (PII YW 05 YC; second generation female)

6.0.2.10 Health consciousness

Choosing food based on its potential health benefits or conversely based on the potential harm that it may do to ones health is reflected to varying degrees amongst the respondents, for the majority though having a positive influence though not necessarily being an overriding factor. For the first generation comments were often made in relation to their children and their Western food habits but also it was noted that it may in fact be their children who are encouraging and helping them to make healthy choices.

Often times, even when we want to [eat healthily] because of our hankering for it, we just can't do it. You must imagine, fatty foods – chips, fries, all such things we get, but the children are very health conscious. They always check their diets, they want to eat healthy foods. Often times, by trying to keep up with them we too prefer and indeed, do eat healthy foods. We have a mixed balance. We eat healthy foods and fatty food alike. (PII OM 05 FA; first generation male)

I think nowadays because of the health issues and things…so we do try and keep healthy, but now and then obviously you do go for something that's not healthy. Cheesecakes and things. But yeah, generally, I think we do keep… fairly healthy for myself and the family. (PII YM 01 AN; second generation male)

Very important. I want to look healthy and be fit basically. It's really important to me. (PII YW 04 SB; second generation female)

To be honest I don't really think twice about the ingredients or the contents of stuff, but I do tend to opt for, if its drink I try to go for the more natural stuff as opposed to fizzy drink. In terms of food I pretty much eat whatever tastes nice! Its so bad, but yeah I wouldn't say I'm that healthy conscious, health conscious. (PI YW P1; second generation female)

Many of the first generation women noted the changes that they had made to their diets after receiving education or learning new cooking skills in order make produce healthier options. There was an awareness of making positive changes to the diet to help prevent later illnesses such as diabetes.

I think about these things more now, I didn't used to understand before. Before I used to cook with a lot of oil, really redden the oil before adding spices; after the nutrition class I don't do this any more. I use less oil and I add my spices straight to the oil. (PII OW 04 MB; first generation female)

I try and avoid oily food and don't eat too much meat, if I do then I might become ill. If I get pressure then you can get diabetes, diabetes is related to pressure and cholesterol, o know that. (PII OW 04 MB; first generation female)

Interestingly, even for the first generation, the food choices made for their health were based on Western concepts such as reducing fat intake, limiting meat and increasing the intake of fruits and vegetables rather than traditionally held beliefs.

Mainly I eat [vegetarian], I don't eat much meat, I have some cholesterol so I am picky about what I eat, I don't eat things like butter and ghee – no fatty food. (PII OW 05 RB2; first generation female)

6.0.2.11 Motivation

The motivation behind dietary choices and physical activity, and the ability, or not, to make changes was influenced by a wide range of factors, the most commonly noted being the influence of family and children, especially for the first generation women as reflected in the shopping and cooking practices . For some however there was a simple lack of desire and thus willpower.

Yes, she'll do food for the children, dry chicken, chips, that kind of thing, you know fish burgers, they'll fry those and she'll do roast for the children, they like it. (PI OM P1; first generation male)

I have cooked all that food for them; it's for them after all isn't it? (PII OW 01 SB; first generation women)

Food should be the best quality all the time. Especially for children. (PII OW 02 RB; first generation female)

I try to eat healthily. I say "I try" but then I always… sort of…not try. I guess I could take extra steps and make sure I eat healthily. I know what I should be doing, I just don't do it... I think everyone knows the risks of…you know, lack of physical activity, everyone knows the risks of not eating healthily. I think people are aware of it nowadays but it's more that…I think…I know they're more aware but…raising more awareness and obviously telling them the impact of not being physically active or not being so healthy. I think everyone knows it, everyone understands it but it's about getting them to really see it in real terms. I don't know what I mean by that, but erm….for example with me, I know my mum's going through this, but I don't want to you know, in the long term end up with the same condition my mum has. But even this that's not a good

enough… reason for me not to go out there and not eat…properly. (PII YM 02 ZK; second generation male)

[N]owadays due to regular exercise I feel as though I'm more motivated and I have more energy in me to be able to do more activities (PII YW 05 YC; second generation women)

Some of the second generation women had quite a sophisticated understanding of differences between healthy diet knowledge and behaviour, and tended to believe that for many, positive health changes were would only be made when there was a clear purpose rather than for general prevention. A stronger motivation was required than being generally health aware.

I think it's probably because we're at this age we're like we just feel we can eat whatever we want whether it's healthy or unhealthy, whether is salty or it's not salty because we can do that. We want to give our baby the best, we'll probably think more and then because we've got something to work towards, you know something good we're doing then its probably going to make us eat. And I'm sure when we're, inshallah when we're pregnant and all that we'll probably think that. But then after we have the baby probably we'll think we need to lose the weight, so we'll probably like – do you know what I mean, again diet might change. So I think its all about what's going in your life and lifestyle. (PI YW P1; second generation female)

6.0.2.12 Parental control

Lack of control by parents over their children's choices was not voiced by the participants except on one occasion by a first generation female who while realising her children were making poor dietary choices felt that she was unable to persuade her children to minimise their intake. Issues around children's dietary intake tended to centre more on wanting the best for their children and accommodating their preferences such as going to take-away restaurants and cooking western style meals different meals rather than feeling a lack of control per se'.

I don't think it's healthy. I think its bad for you, I tell them not too eat it. They like Chinese food as well – noodles and things. I tell them not to eat it because it's bad for them (PII OW 03 RS; first generation woman)

You can't make children understand can you – they have to eat what they want. And children in this country they don't eat so much rice and curry, they prefer to eat the other stuff, so that's what they get. (PII OW 03 RS; first generation woman)

6.0.2.13 Perception of time for food procurement and preparation

The perception of lack of time influenced choices for both food and activity across a wide range of themes. In relation to food, perceived lack of time influenced food procurement such as shopping practices and label reading, food preparation and the intake of food cooked in the home versus outside food.

The children…they eat fast food often. I think it's because it's quick. They have it on the go, it's eaten in a short time, there's no preparation. If you want to eat at home there is a preparation. There is no such thing. It's served up quick and ready, eaten quick-time. I think for that reason they prefer fast food. (PII OM 05 FA; first generation male)

But it's mainly the convenience for my children; they prefer to shop in the evening. They don't have time to go shopping in the day. (PII OW 04 MB; first generation female)

Depends on the situation. If I have time on my hand and I'm available, I'll walk a distance to get the food because it does add up. It's expensive. Some places do…some local shops do have high prices, so I would rather walk a mile to get a cheaper price. (PII YM 05 AH; second generation male)

Yeah it takes quite a time to cook Bengali traditional food so it's better to just go to the chip shop. (PII YW 01 RB; Second generation female)

I prefer cooking pasta! It's quicker. Especially when you're hungry you just want something quick to eat. (PII YW 04 MB; second generation female)

This percieved lack of time is significantly changing food habits with repect to the increase in take-away foods and reduction in food preparation for the second generation participants which will have a significant impact on their health and that of future generations as cooking skills diminish and dietary patterns taking on a more western approach.

6.0.2.14 Quality

Aside from religious considerations, quality was the most reported influence on food choices, with quality being judged in relation to: the appearance of produce; perceived freshness; hygiene; being expensive or cheap; and brand, both product specific and corporate image.

It's the same with all food, when you see that the price is more, lots of people will think that it must have something [extraordinary], there must be something otherwise why would it be more expensive? (PII OM 02 AH; first generation male)

It's quite easy to find out. Say, if I am buying Bangladeshi groceries, where I live there are a number of small grocery shops, their produce isn't that fresh. They can't stock fresh vegetables, fresh meat or chicken. There are some shops that are recognised for this. There are some shops that are known for providing very good quality meat. It is fresh, even if it is a bit more expensive. I try and buy it from there. And vegetables I get from larger stores, even though I live quite far – I live in Poplar, I prefer to shop here because larger shops have more fresh produce. That's how I determine quality. (PII OM 03 HRK; first generation male)

In Sainsbury's everything is within date that's why I shop there, and so if it is buy one get one free its in date, it will last. (PII OW 02 RB; first generation female)

For some there was a very pure concept of freshness which influenced whether or not people were willing to have left-over food, ready meals or frozen options.

And I don't like the idea of it being cooked or prepared in a fridge for how long? Do you know what I mean? Frozen stuff I'm not too picky, not frozen stuff as in, not meals in itself, but you know. I get frozen vegetables from time to time or frozen soya or fish fingers and things. But erm, you know when you get the other meals and stuff I don't really quite fancy that idea. (PII YW 03 SS; second generation female)

Quality-wise, definitely. Erm…my parents think Bangladeshi food is excellent quality. Maybe ... well, for example chicken over here so much meat in the chicken, in Bangladesh I need to have sort of two whole chickens to, you know, make up one wing or something. Yeah. I guess…it's fresh out there. You get a chicken and you butcher it yourself and…you know, you make it yourself. Fish, you go fishing yourself and then do it yourself. It's fresher…but I don't know… quality-wise, I would still prefer this country than Bangladesh....Why do I think…? 'Cos I, you know, you see the chicken in front of you, you butcher it and you know it's fresh. The fish, you see the guy, fishing for it. He brings in the fish, you know it's fresh. So that's how you know. Why I think food here ain't fresh? It's not that it's not fresh, just erm ... it's frozen isn't it? So I guess it takes away an element of freshness from it, so yeah ... the fact that it's frozen I guess. (PII YM 01 AN; second generation male).

And with ready meals, even if we go to a fast food restaurant, not everyone is doing their job properly, once you have the meat you've got the red bits inside, and it like they just want to get rid of the food and make the money. But with home food its different, you have it with the family they take extra care of it, but with the home food it's got a lot of oil in it, and that's it, that's all I can say. (PI YM P2; second generation male)

Quality was also highlighted in relation to the food available in Bangladesh versus that available in the UK. For the first generation participants, food produced in Bangladesh was considered superior, a view also held by some from the second generation. This appears to strongly reflect a closeness with the land resulting from a rural background with which there remains a strong tie.

I think in Bangladesh everything is from a local farm, here I think they [import] a lot of things from abroad. In Bangladesh they don't really do that, [especially] the food we eat, that isn't really [imported] at all. Here a lot of foods are [imported], that's why I don't think it is that fresh. (PII OM 01 SA; First generation male).

The food in Bangladesh is fresh and here everything is frozen, so of course it will be different... In Bangladesh. The fish, meat, everything is fresh, but as I'm living here I have to eat the food that is available here. (PII OW 04 MB; first generation female)

The difference is that it's fresh over there. It's brought fresh. I mean, I enjoy eating fish. I get it live and then sacrificed and then cooked and then eaten. You get a different taste to that, whereas when you eat it in England, it's been frozen and it's hard and it doesn't have that soft taste to the fish. And many other vegetables, what we can get in Bangladesh, it's difficult to get it here. When you do get it here, it's been exported from Bangladesh. On the way, the distance, in the journey, the freshness goes. Whereas in Bangladesh, it's freshly sold in the shops. So most types of food are fresh. (PII YM 05 AH; second generation male)

A number of the participants also linked hygiene with quality, being of particular importance as cleanliness is an integral concept in Islamic food laws. As such, concern about poor hygiene given as a strong reason for some participants for avoiding food prepared outside the home, particularly meat, in both take-away outlets and restaurants.
If it's a meat dish – do you know how they washed and prepared the meat? (PII OM 02 AH; first generation male)

The quality does matter an well. I mean, not quality in terms of price or…quality of the …make. Clean, hygienic. These are very important to me. (PII YM 05 AH; second generation male)

I personally…I don't really prefer fast food. Most of them I don't prefer because I believe that fast food is … the way that it's been cooked, first of all you don't know who and how they cook…you're not guaranteed that it's fresh and it's cooked cleanly, you just don't know, so for that reason I prefer… …It's questionable. Because first of all, they're selling just to make money, and their task is to earn money. So obviously, they'll say that they are doing their best but for your curiosity…for myself, it's best not to buy fast food. I've cut down completely going to McDonald's and kebab shops. (PII YM 05 AH; second generation male)

In relation to food prepared in Bangladeshi restaurants in particular a female participant had particular concerns.

I don't like it, I don't know it seems not healthy, like not clean and hygiene and stuff like that ... Bengalis yeah. It's the way they cook and stuff, I don't know I just find it, not you know hygiene and stuff. (PII YW 01 RB; second generation female)

6.0.2.15 Status and image

Very few of the participants identified a specific need to maintain a certain status or image within the community as a reason for making specific food choices. There was however a strong belief in the importance of providing special food when entertaining in order to please and impress guests via both the type and selection of foods available. In this case the there was a desire to provide special foods such as red meat; a variety of fish types; a variety of curry choices as well as choosing what was considered to be superior brands rather than say generic varieties. It was specifically noted that when purchasing foods for social occasions there is no

though given to whether the choices are healthy but rather whether they are tasty and will provide pleasure for the consumer. With one exception of a second generation women, the concern to 'go the extra step' when entertaining and provide a variety of foods to cater for individual preference, was only discussed by the men, both first and second generation. Some of the male participants did however refer to their wives holding the same beliefs.

Yes I definitely think of that. I want to buy nice food, I even buy unhealthy foods, foods that I know are unhealthy but for [social pleasure], to make sure people enjoy the food. A lot of the time it might not be healthy for them – red meat is often bought when we invite people over. (PII OM 01 SA; first generation male).

Imagine that someone says they are coming over, someone in the family – we have sisters etc. or even someone a bit more distant related – your in laws – they come over and five curries are cooked in their honour. ... Or a dish like dhal – Indian people have that a lot, it's good for your health too. But a lot of our people will think that if you are serving dhal then you must not have a lot of money, you must be poor. (PII OM 02 AH; first generation male)

When you're busying for the house, there is a certain type of food that you buy day to day, week to week. When you're out and about, [at] friends' or families' or you're expecting someone to come over, then you take an extra step I guess and you know, and forget about… I think you kind of miss out the healthy part of things and just go for what's more convenient and what's more appropriate for the people coming in I guess. So yeah, socially…it's important that I get food that's right for the people that come in yeah … I try to have a variety of things…so obviously you don't know what people prefer, so if you have variety they can say "I like this but not so much of that", but hopefully give them the option of liking and disliking. (PII YM 01 AN; second generation male)

I'm very much aware of it, and if I'm entertaining people then I make sure I'm getting good stuff, and not just maybe any brands but good brands. But generally what I have at home I don't really care so much as long as it's good and it tastes good, in terms of brands and things. (PII YW 03 SS; second generation female)

One of the first generation men noted that status was not important in the Tower Hamlets community as they are all equal and able to provide the same types of food thus a reduced class structure with all having similar social standing.

No, there is no status thing. I don't look at that. If a person comes, if someone is invited, what will be on the table everyone has a general idea. In this country, the situation is thus: everyone can afford it. Go to any house, the common items will be there. (PII OM 04 MA; first generation male)

One of the second generation women noted that image was of importance to younger members of the community and affected for example whether or not they were likely to take food from home to school versus purchasing something which would usually be fried chicken and chips.

Even young people from school, you know, its probably seen to be quite uncool to get food from home. (PII YW 03 SS; second generation female)

6.0.2.16 Taste

Taste preferences are reflected in specific food choices as well as meal preparation and the intake of food away from the home. Taste preferences for both generations have been strongly influenced by their culinary experiences across their lifetime which has seen for some a divergence in the food consumed between generations.

The simple pleasure of having 'tasty' food was noted by many as the reason for choosing food that is considered to be unhealthy, and especially that which is consumed outside of the home. So while there may have been an awareness that certain food choices, especially fast-food, may not be desirable the participants openly recognise that the enjoyment becomes the over-riding factor and as such they are drawn to these foods and find them very appealing.

My wife and child like it and sometimes they want to eat it and so I go with them. That's the main reason. There are a couple of shops that make really tasty food – donor kebabs. So we sometimes eat there. (PII OM 01 SA; first generation male)

The truth is, it's very tasty is junk food – chicken and chips, fish and chips. (PII OM 04 MA; first generation male)

*Because I like hot, hot food, hot food and erm sour like, you know, I eat stuff with lemon or whatever, pickles and stuff like that I can't see me eating like salads for long! We've tried innit? We have tried and I have tried so many times to eat healthily, things like maintaining the five a day. (*PI YW P2; second generation woman)

A distinction was made between home cooked foods and that purchased in restaurants and also ready meals. Home cooked food was generally seen by all as being superior in taste due to the flexibility of being able to add or limit ingredients, such as the spices to suit individual tastes. Food in Asian restaurants, being widely considered to be produced for the Western market, was often considered to by too bland and oily. Ready meals are very unpopular do to being mass produced, once again bland, and of poor quality due to perceived pack of freshness.

When our wives cook, say its chicken or fish, they will add a number of spices like chilli, ginger, garlic, turmeric, onions, [everything]. They mix it all and then it's cooked. And one of the things is the food gets very spicy, but if it's spicy then it's very [tasty], it's tasty to eat. We eat that way. And talking just about me, I always tell my wife to cook with less spice, oil, less [oil] and to cut

back on the chilli powder for me. But she likes it spicy! She cooks with a lot of [spice] so we generally [spicy] food, whether it's chicken or fish. It's always spicy. (PI OM P3; first generation male)

I don't think you'll get that hotness in it…in any other types of food. Nothing compares to the curry. When you have a donner kebab, it's just the chilli itself. But with the curry, it's a blend of different types of flavour, spices, curry powders and things. …It's very important to me. (PII YM 05 AH; second generation male)

Well we don't like the taste of ready-made, and also it isn't filling for us, its not enough, so if we eat that and then rice on top it will be too much. (PI OW s; first generation woman)

And like I didn't really like take-outs or ready meals because it had that, it doesn't have that flavour innit? Like a machine just, popped out of a machine innit? There you go. (PI YM P1; second generation male)

An exception noted in the preference for home cooked food was that by RB2, a first generation female who stated that as she had made changes to her recipes in order to change to a healthier option, visitors don't like her cooking. This non-acceptance of the consequent taste change may be one of the reasons that change to food preparation and cooking techniques can at times be resisted.

When people come to my house they don't like the look of my curry – they say it's the food for ill patients. (PII OW 05 RB2; first generation woman)

Food experiences growing up have significantly influenced taste preferences between the first and second generations. Broadly, the first generation has a stronger preference for continuing to have traditional foods whereas the second generation are more likely to experiment with new tastes, reflected in the greater intake of outside food. Furthermore, the first generation generally believe that the food in Bangladesh, particularly the fresh produce whether it be meat and fish, or fruit and vegetables, is superior to that produced in the UK, an opinion generally not held by second generation participants who for some at least found the food available when in Bangladesh thoroughly disagreeable. These taste preferences reflect the participant's experience of different foods and flavours across their lifetime. It has also been documented in migration studies that migrants often have their heart in their country of origin and thus see everything 'back home' as better.

Food – they'll just eat a piece of bread. They are not bothered with Indian food, with our food – because they are used to this food. That's not to say they don't eat out food, but they prefer this food so much. (PII OM 02 AH; First generation male)

And in this country, they put a lot of [artificial] things in the food to make it grow. And so it looks very nice, but the taste isn't there. Obviously, some of the taste will go from not having it fresh and keeping it in the fridge. (PII OM 02 AH; First generation male)

The taste is different I think. Firstly, there is the tea, it doesn't matter how well I brew the tea here I just can't get the taste right. After I came back from Bangladesh it must have taken me six or seven months or even more before I could take to the tea again. Nothing tasted good – the food just didn't have any taste – the fish didn't have any taste. In Bangladesh the fish is much tastier than here. (PII OM 03 HRK; first generation male)

In Bangladesh you buy it and then you cook it straight away. It is fresh, so good, it's much better. (PII OW 02 RB; first generation female)

They don't know that taste – but for us it would be impossible to give it up! (PI OW L; first generation female)

Other than mackerel we don't like English fish. It doesn't taste as nice as Bangladeshi fish. (PII YM 04 AS; second generation male)

It tastes different, but I suppose it's because, just because it's much more, we are so used to having the food we have here. Because like the fish there, you can get like fresh fish and it tastes different. … I like to eat here! But you get used to it there though, and you know you can have so many different types of vegetables and things. So erm, which is quite nice, but initially when you go for the first week or so it doesn't taste all that good. (PII YW 03 SS; second generation female)

Bangladesh is something completely different. Like the chicken I'm having is not the same chicken I would have here. It just doesn't taste right. (PII YW 04 SB; second generation female)

The influence of the way food tastes is unsurprisingly an importance influence on the choices made by the participants. The specific choices with respect to taste preferences however were strongly influenced by culinary experiences of their individual lifetime. First generation participants preferred the taste of traditional, home cooked foods but furthermore, felt that the food in Bangladeshi was far superior, its freshness and quality enhancing the flavour. To the contrary however the second generation participants did not enjoy the taste of the food back in Bangladesh which was in some respects too fresh and unlike the intensively produced and often imported produce they were used to in the UK. The second generation also were more willing to experiment with different foods enjoying the taste of both traditional and western options, and being more willing to make modifications to traditional family recipes.

6.0.2.17 Way of the world – Fatalism

Fatalism was a far less common theme in relation to reasons for changing dietary habits than was initially anticipated with only two of the first generation women feeling that their health, including their weight, was ultimately in the hands of Allah. For the second generation, only one woman made the comment that it was too late for changes to make within the community but

this was more a reflection of a feeling of hopelessness due to the high rates of diseases such as diabetes within the Bangladeshi community rather than theological fatalism.

[M]y weight is okay, Allah has made me fat, I can't lose weight … (PII OW 02 RB; first generation female)

Obviously nothing happens without the will of Allah, but they should be told to be careful. (PII OW 03 RS; first generation female)

We'll eat until there's a reason not to. Its just the way of the world, that's just the way it is, isn't it? That's the thing. (PI YW P1; second generation female)

6.0.2.18 Western image

None of the participants felt that the dietary changes being made with the incorporation of Western foods were as a consequence of trying to portray a more Western image and 'fit in' with the dominant culture in the UK. Reasons for having Western food were usually based on the taste and wanting to have variety, including for visitors from outside the UK who may want to experience 'English' food. It was also noted that there was quite a narrow view of what English food is, often being limited to fast-food as that is what they have been predominantly exposed to.

And if we have [guests] who are [interested] in the food in this country, if they come from abroad, then we take them there. (PII OM 01 SA; first generation male)

Well I wouldn't, I cant see that to be true of any of my family, the youngest one, he just lives, literally lives on PFC just because he's got that taste, not so much 'Oh I don't want to be a Bengali and have rice and curry'. But, I don't know, I don't think any of us think like that. (PI YW P1; second generation woman)

I think that applies more to people – older people. They think PFC is more English. Maybe they are not aware of other things that maybe considered more English, but healthier. (PII YW 03 SS; second generation female)

6.0.2.19 Summary of the psychological influences on food choice

As with the sociocultural influences, the psychological influences on food choices were wide and varied between the generations and gender. By far the most powerful psychological influences were those of taste; convenience; quality; the perception of lack time, ability to make changes; influence of advertising; motivation to make change as a consequence of influence of family and in particular children. In addition to these factors however there were a number of other theme clusters identified, such as the various emotional impacts which are important to consider.

The concept of addiction to the high fat fast-foods was raised, "*I wouldn't be able to live".* This was a concept identified predominantly by the first generation participants, both men and women and was seen as a cause for major concern within the youth in their community.

With respect to the influence of advertising this was mainly though to affect their young children in that they see the advertisement on television after which they pester their parents to buy the items seen.

Being overweight was considered by the majority of the participants to be associated with poor health. Some of the participants noted that they 'don't have that cultural 'thing' of fatness being associated with wealth' which they felt continued in some communities including their own. A number of the second generation men and women, they expressed the desire to be fit and healthy rather than a particular concern about body weight per se' which is likely to be related to the fact that the participants overall saw themselves as being thin or even 'skinny'.

The emotional aspects of food choice related predominantly to the concept of pleasure and the social importance of food. Both first and second generation participants highlighted the importance of sharing food with others and the enjoyment derived from this, whether it is from food prepared and shared within the home, or eating out at restaurants with friends. Trust was also noted to be a significant influence on where foods were purchased, some retail outlets not being trusted to provide the halal meat they advertise, others being seen as having poor hygiene standards and therefore going against the Islamic teachings which emphasis cleanliness.

Ethical and moral considerations tended to be limited to the impact of large food retail outlets impacting on the small, Bangladeshi stores and therefore taking away work from members of the community but also reducing access and availability of traditional foods. There was ambivalence with this however as despite these concerns, the same participants noted choosing foods from the large mainstream supermarkets due to the quality and convenience they provide. The Islamic teachings also played a role however with a number highlighting the need to avoid waste, poor quality food and gluttony. The was generally a lack of any consideration for issues such as animal welfare, fair trade, or environmental considerations with only two exceptions, one first and one second generation male. Despite this knowledge the first generation male did not feel he was able to have any influence, the young man however, who was increasing his awareness at university, felt that such concerns would begin to influence his decisions. Organic foods were favourably sought after however this related to a belief about superior taste and quality rather than any environmental concerns, and to a degree, especially for the first generation this preference was embedded in their rural background where food was taken "*straight from the ground that it was born into*".

Many of the participants noted concern for their health when making food choices although the awareness of healthy choices did not necessarily result in positive choices for all. On the other hand, some noted that after having received education this had impacted on their dietary

choices where in the past they didn't have an understanding of the implications of some of the choices they had made. Some of the first generation participants explained that their children were health conscious and therefore have had a positive influence on the family as a whole.

Family and children had strong influence on food purchasing and cooking practices, especially the first generation women who would often purchase and cook western style foods to cater for the preferences of their children, whilst at the same time maintaining a traditional diet for other members of the household. Allowing their children to have fast-food was also seen as accommodating their preferences rather than lack of any parental control but overall this wasn't expressed as a major concern. Buying expensive organic foods and general concern about quality was often related to wanting to provide the best for their children even if not able to afford the same for themselves.

The perception of lack time was a significant barrier in relation to food procurement and preparation for the second generation participants as noted by themselves as well as the first generation remarking on the habits of their children. The need for convenience also affected all aspects of food choices. These two concepts have resulted in the increased intake of fast-foods as well as a reduction in the preparation of traditional meals. Both the perception of being time poor and need for convenience was predominantly influenced by lifestyles factors and in particular work for both men and women and reflecting the changes in gender roles for the second generation in a traditionally patriarchal society.

Quality was one of the most consistently noted concepts relating to the food choices being made for both generations of participants, being particularly associated with freshness of the food available, but also to a lesser degree appearance and hygiene. With respect to the quality this impacted on where foods were purchased such as markets versus supermarkets as well as whether or not the participants were willing to have left-over food or store food in the freezer. These later issues related specifically to the first generation who preferred to purchase perishable food items on a regular basis rather than in bulk. This was rooted in their rural background and is influenced for many by the fact that they continue to travel back to their homeland where they note that the food is of far superior quality and taste.

With respect to taste, there were differences in perception between the two generations being strongly influenced by individual culinary experiences over their lifetime. As a consequence the first generation were less likely to experiment and an ongoing preference for home cooked traditional meals and the food available in Bangladesh. The second generation, whilst still having a strong desire for traditional foods, were not as concerned about having these types of meals on a regular basis and on fact found the constant 'rice and curry' to be monotonous. Instead they were more likely to have foods prepared outside the home and 'taste' was the dominant reason for choosing the spicy fried chicken and chips that were taken on a regular basis; why would you choose a sandwich when fast-foods are so tasty and so cheap? Fatalism was a far less prevalent concept than anticipated, including amongst the first generation participants. Only those first generation female participants who were relatively

isolated, and with minimal education, seemed to hold these views. For the vast majority, they did feel that they could influence their own health however the high rates of ill-health from diseases such as Type 2 diabetes within their community made the concept of prevention a daunting task.

Finally, neither the desire to conform to a Western image or to maintain a certain social status within the community were raised as having any significant influence on the food choices being made. In relation to trying to portray a western image the converse was reflected in the resistance to change and the pride in their culinary heritage and food culture. When social status was noted, this was in relation to socialising with friends and family where sharing of special foods remains important, especially for the first generation men. Figure 6.2 below ilustrates the physiological influences on food choice.

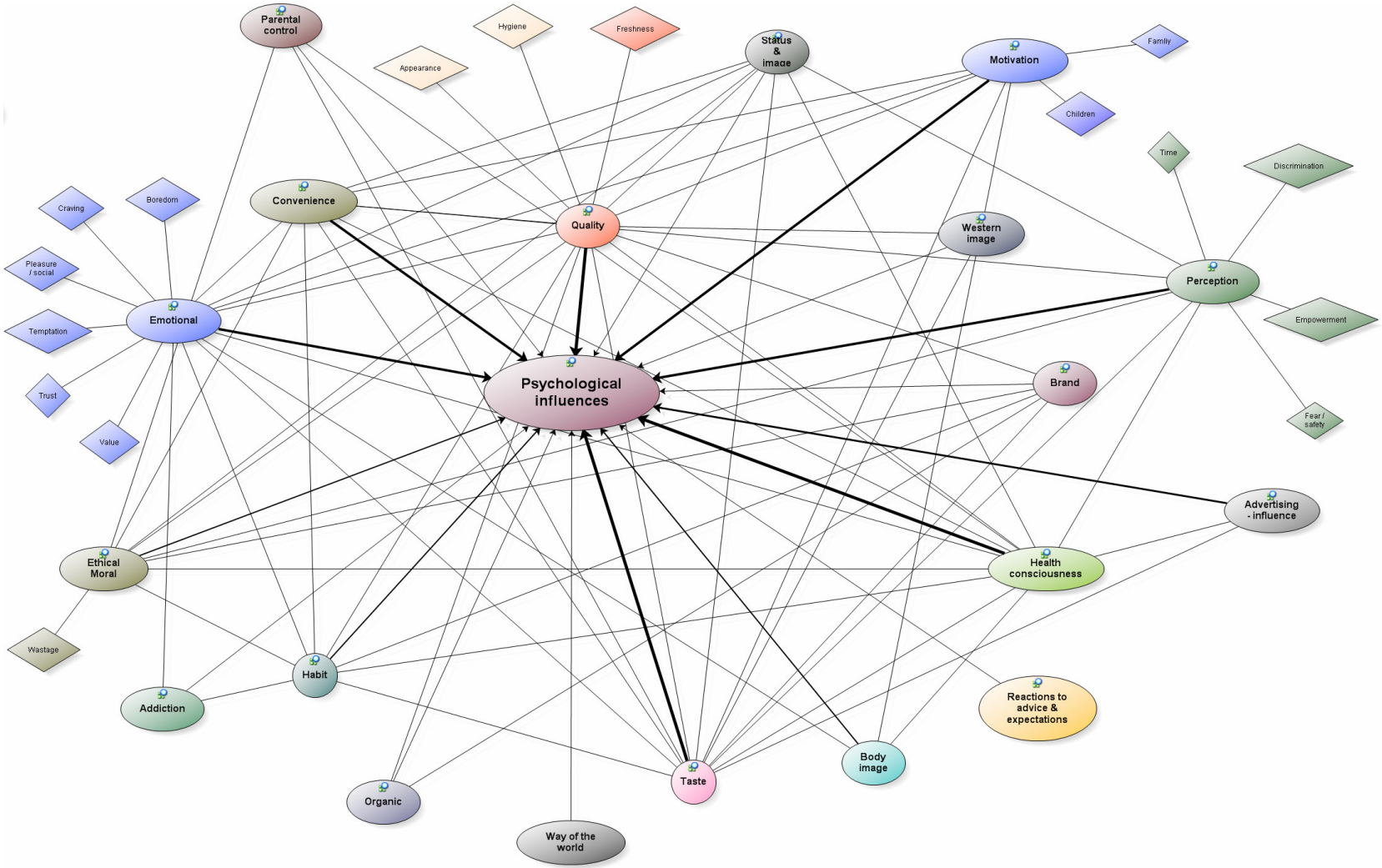


Figure 6.2 The psychological influences on food choices

6.0.3 Environmental influences

In order to place the micro level data of socio-cultural and psychological influences into the wider context of the factors influencing food choices, questions were asked in relation to food shopping habits with respect to access and availability, affordability and lifestyle. Additionally, new themes emerged from the participants own experiences including opinions regarding aspects of the food chain, the effect of isolation, and language and literacy abilities.

Specific research questions being addressed in the section are:

- What are the potential effects of educational levels, social class, access to housing and employment status?
- What factors contribute to the maintenance of traditional food practices?
- What are the economic considerations when making food and physical activity choices?
- What are the potential environmental influences on food and physical activity choices?
- What are the barriers to accessing healthy food options and participating in physical activity?

6.0.3.1 Access

This theme principally describes physical accessibility to shops; the location of shops and types of transport required when shopping. Ability to access gardens and grow own food was another important consideration for achieving good health both for the fresh food it would provide as well as the physical activity involved in maintaining it although the interviews highlighted that most people did not have access to a garden. For those without a garden there was a desire to obtain access if possible but for many they made the best of the small space available on their balconies to at least grow a few plants. The desire to have access to a garden was particularly important to the first generation men and women, although it seems to be the women who actually do the gardening, and is a reflection of their history living in a rural village in Bangladesh.

That's a reason why Bangladeshi people are [unhealthy]. In Bangladesh we all had gardens … Here we don't have that opportunity. And working in gardens, growing our own food that provides you with a lot of exercise, here we don't have that opportunity. (PI OM P3; first generation male)

I have a garden, thank God. My wife…she plants many vegetables and pot herbs in the manner of our country. She plants potatoes, cooks curries with potato leaves, I notice. (PII OM 05 FA; first generation male)

I've started to grow all these things now – I have sown doogi, lai, doola [Bengali vegetables]– it is nice to eat these things. I eat a lot of those. It takes a lot of effort to grow them but they are nice to eat. (PII OW 02 RB; first generation female)

Since I came here [eight years ago]. In the summer I have two tomato plants on that side, and on this side I have two chilli plants. (PII OW 05 RB2; first generation female)

Yeah my mum. My mum loves, my mum loves gardening! … She would grow, like you know in summer, she would grow onions, tomatoes, potatoes, coriander, stuff like that. Like we don't have a garden but it's like a small balcony, she would do it there, she'd get like boxes and you know. (PII YW 01 RB; first generation female)

6.0.3.2 Availability

The availability of a variety of halal and traditional foods as well as options such as take-away and convenience foods has changed significantly since people from the Bangladeshi community began their main migration from Bangladesh from the nineteen fifties to the seventies as described in chapter one (Home Affairs Committee 1986;Lawson S & Sachdev I 2004).

The participants described a ready availability of both traditional and halal food, with much of the produce being imported from Bangladesh and sold in Bangladeshi grocery stores and fishmongers but not necessarily mainstream supermarkets.

I think it is the same. Because nowadays you can get and make the same food as in Bangladesh here. Everything is available. I can't see any difference. (PII OM 02 AH; first generation male)

No, they don't. Supermarkets don't really offer me everything. I mean…when it comes to…like I said, traditional curries…certain herbs and spices, it's difficult for me to find in supermarkets. …Even in the Asian sections. They don't have the real deal. This is just a cover up, just to sell the product. Because they don't have any idea of the traditional Asian, I mean Bengali [sic] cooking or whatever. What they have is just basic stuff. (PII YM 05 AH; second generation male)

… in Sainsbury's you've got the certain range, but sometimes you'll have to go to your local Bengali grocer just to get something you want. (PI YW P1; second generation women).

The large number of halal butchers has enabled the community to buy meat that meets their religious requirements. Some comments were made regarding the desire to be able to access halal meats in the supermarkets but others noted that while some supermarkets have actually already begun stocking halal meat that they are still unlikely to purchase the meat due, as noted in section 6.0.2.6 to the issue of 'trust'.

In East London, there are so many shops with halal food, so we can eat there. But in other areas, say where its not a Muslim [area] there's not a Muslim [community], in those areas you can get a bit suspicious of whether the meat is halal or not and so we just eat fish. (PI OM P1; first generation male).

… there's food that I can buy somewhere else but I can't buy in the supermarket – for example halal meat and stuff like that. (PII YW 05 YC; second generation female)

I know Asda's do halal meat nowadays, but I still haven't bought any. I'm sure they're halal. I'll give them…I trust them…just hard to get through to my head I guess. (PII YM 01 AN; second generation male)

The availability of both traditional and halal foods is a reflection of the very large Bangladeshi community in Tower Hamlets so similar availability of these foods may not be seen in other areas of the UK.

An area of particular concern to the second and younger generations was the overwhelming growth in number of high fat take-away food outlets in Tower Hamlets which are considered to be cheap, convenient, easily accessible, and for many, their food 'tasty'. Regardless of whether the participants admitted to frequenting these outlets though, the majority of the participants recognised the large number in their area to be an issue that needs to be addressed noting the negative impact they are having on the food culture and health of younger Bangladeshis in the community.

I think there is too much fast food. It is [everywhere]. (PII OM 02 AH; first generation male)
Our children do eat that kind of food a lot, but there are a lot of shops so they will a lot. Before when we came here there weren't these kind of shops.
(PII OW 01 SB; first generation female)

You do realise it, nowadays you know, even if you look in east London, Tower Hamlets, yeah, a lot of places where there's PFC's coming from, sorry, you see everywhere there's just PFC's just popping up. Even in Wapping now we've got PFC, and its just there and its just come up and people are just going there and eating. (PII YM 02 ZK; second generation male)

There's a PFC near every single school here and it's so sad to see all the kids having PFC after school when you are walking down… And have you – if you walk down from say the East London mosque down to Mile End station or not even Mile End station, Stepney Green – so many PFC's between there. Between ten and, between fifteen and twenty I think. It's just, there's so many and they do so well. (PII YW 03 SS; second generation female)

6.0.3.3 Affordability

Affordability emerged as an issue for the community participants with respect to fruit and vegetables in particular and especially for the men. The participants perceived that the good quality fruit and vegetables were expensive therefore compromises may be required although quality was important. Cost also influenced where certain foods were purchased, both produce and outside food. Furthermore, the choices considered to be the best choice by the participants, such as organic, were seen as being largely inaccessible for the vast majority. This has implications for the prevention of obesity and related NR-NCD's with the social and cultural aspects of eating and food purchasing needing to be understood in order to influence food policy decisions, such as fiscal measures to change the relative prices of healthy and unhealthy foods.

I wouldn't say it's always [sufficient], because we obviously have other things to buy. I don't think its enough for a totally [healthy life]… They are quite [affordable], but if I wanted to be very careful and only eat [healthy] food then I think it wouldn't always be [affordable]. (PII OM 01 SA; first generation male)

All Praise to God! Thus far, it's been okay. If we wish, we can buy. As I said earlier, we follow certain things and at the same time as we are rice-and-fish-Bengalis, we can…up to now, we can afford to based on income… Special food, 'desirables, food, we make it ourselves. Of course, it's not every-day food that. Once a month, once every three weeks. For that, of course there is a separate costing; it costs money, so we do every now and again. Sometimes, we have to calculate… We have to compromise. (PII OM 05 FA; first generation male)

It is expensive, but you have to buy fresh food and fruit at least once a week. (PI OW S; First generation female)

But with the fruits I wouldn't go there [supermarket], because they're really expensive, they might be really quality food but it's really expensive. With the same kind of fruits you can get in the market stall and you can get it for much more cheaper. Might not be that quality but as long its, erm, the insides, the inside bits alright. (PI YM P2; Second generation male)

To live a healthy a lifestyle in London you have to pay for it and that's a shame. (PI YM P2; Second generation male)

It's hard to get that into your budget. You can get pretty much everything organic these days, but not everyone can afford to eat organic. And for me especially, I can't afford organic food… (PI OM P3; First generation male)

Like there's this Muslim farm that does organic chicken, but it's like three times more expensive than normal chicken, you know and we can't afford to have it all the time. (PII YW 03 SS; second generation female).

That's the thing? Organic food is more expensive so I wouldn't even go for it, even if, but I would prefer to, because it hasn't got all that chemicals inside. PII YW 04 SB; second generation female).

When compromises were made to the food purchases there were differences of opinion with some choosing to compromise of fresh fruit and vegetables while others considering these, together with the fish and rice, to be staple. When compromises were made with respect to fresh produce it tended to be as a consequence of bending to their children's preferences.

You can't cut out your regular food – your rice and fish, if you had to cut something out then you could cut out crisps and sweets – those are things that you can get by without eating. We always buy fruits. (PII OW 04 MB; first generation male)

They would get their sweets and drinks, we would just compromise on our vegetables and fresh produce. You can't make children understand can you – they have to eat what they want. And children in this country they don't eat so much rice and curry, they prefer to eat the other stuff, so that's what they get. (PII OW 03 RS; first generation female)

It's usually the fruit. We don't have meat so much so you know we don't spend a lot of money on meat. But it's usually the fruits or the veg, or having something extra as opposed to just what you need. (PII YW 03 SS; second generation female)

And while price was an obvious consideration in food purchases it was noted that quality remains the priority when making the final selection, especially for fresh produce. Furthermore, being poor was also not necessarily given as a reason for the food choices made.

Yes I do look at price, but I most of the time I give priority to quality. For example, bananas, very fresh large bananas I wouldn't think about looking at the price because I wouldn't buy ones that aren't fresh. So of course I do look at price, but more so quality. (PII OM 03 HRK; first generation male)

I don't really think about it – I wouldn't eat something bad because it was cheaper. I do most of my shopping at the supermarket. Even if it's a bit more expensive I prefer to know that it's in date. (PII OW 05 RB2; first generation female).

I think it's the same. With oil if you put a lot in it will be a lot, if you cut back on your spices then it will be less. People might think than in Bangladesh people use less oil and spices in their cooking because they are poor, but it's not because of that, it's because they don't want to use so much. (PII OW 05 RB2; first generation female).

The cheapness of the food in fast food restaurants was a further incentive for choosing this option as apposed say to food from restaurants, having a sandwich or even buying fruit.

Compared to food prepared at home however, outside food was for some considered the more expensive choice although of note this tended to be more in relation to food from restaurants rather than fast food. And while some felt fruit was expensive others held an opposing view.

I think healthy foods are generally cheaper than non-healthy foods. So you know, I think if I had to eat take-away or eating food at home it would be much cheaper than me buying at the canteen every day. I was thinking about just today: for £2.30, I think, I bought a sandwich for. That's five days, like…£10…nearer £12. If I cooked home every day and took it, I think maximum it would come to £8 or something, so no. I think it's cheaper to have healthy food. So no, I don't think finance is an issue. (PII YM 01 AN; second generation male).

Most of the, even if you go out all you, most of the shops and businesses it's all fast food restaurants, even if you wanted some pizza its still got the same ingredients if you had fried chicken. To go in a restaurant its expensive, to go and buy fruits it's expensive, to buy chicken it's cheap. (PI YM P2; second generation male)

Alhamdulillah, you know what I find it very good, because you know what most of the expensive food are the rubbish food. Like you got the curries, you got, you know, the restaurants, and all of that expensive food. And most of the good food are cheap. So I think price wise, I don't look at it that, but, look at apples, bananas, dates, they're cheap and they're good. (PII YM 02 ZK; second generation male).

It's very cheap [PFC], you know when you – they are cheaper than sandwiches. Even then we think sandwiches are quite healthy, but when you make a sandwich at home with all the filling and all the mayonnaise and butter and everything it does add up so yeah. But it's because they're so cheap. (PII YW 03 SS; second generation female)

The price differential was also noted for drinks, in particular the cost of water versus alcohol at particular times of the year which one respondent found particularly ridiculous.

It's interesting you said that because I mean sometimes in the Christmas period or New Years period alcohol becomes cheaper than water, you know what I mean? It's silly because they promote like all this alcohol business yeah and then water becomes more expensive, you know, it's silly. (PI YM P1; second generation male).

One of the first generation male participants felt that the Bangladeshi community, in comparison to other Asian communities, spent a large amount of their income on food as a consequence of large family sizes and the types of food chosen, for example fresh fish. As recorded in the 2001 National Census households headed by a Bangladeshi person were the largest of all, including other ethnic groups (National Statistics 2001); see chapter two, section 2.4.1.1.

The people who come from our neighbouring countries they eat a lot or chapattis. They make their own chapattis and with it they have vegetables and dhal. They will buy £2/£3 of the

vegetables that they eat. And our Bangladeshi people - especially people from our area – from Sylhet, they are just [finished]! Whereas they complete their shopping for £25, we will spend £125. Because just for one family we will need half a lamb – maybe a bit less, some families are smaller than others, it depends. On top of that you have lentils – 5 or 7 kgs, they won't buy so many vegetables because we don't eat that much vegetables. But it's the fish! The fish will take £50 from him straight away! This shopping, the other countries, our neighbouring countries, they don't spend so much. They are, we are six people – me and my wife and four children. Comparing how much we spend on food with other sub-continental families from India, Pakistan, and other countries …, a family of six like ours, that is quite poor like us, will spend a maximum of £60-£70 on a weeks food. And for our people even after the cost of rice we will spend £150-£175 of they are poor, and if they are a bit better off then it will be over £200 a week easily. And then on top of that the children have lunch outside of the home, some will have it at school – so that is an extra cost. When you consider all these things, then out of all the Asians, our people, Bangladeshis especially Bangladeshi Sylhetis, we have the greatest expense. Because of all that. And then all this eating leads to so many people having diabetes. (PII OM 02 AH; first generation male)

6.0.3.4 Food chain

Many of the participants instigated comments with respect to the impact of farming methods, as well as manufacturing and processing, on food choice and the differences between foods in the UK versus Bangladesh. The concerns expressed were in relation to the impact on their health, the quality and the taste as opposed to any environmental or ethical concerns.

For the first generation, the preference for organic foods was strongly influenced by tradition and their previous rural lifestyle in Bangladesh. For others there was more of a desire to have less 'processed' food, and the avoidance of 'chemicals'.

We may have been born in a poor country but in our country even if you buy a simple vegetable there is nothing extra in it. It's straight from the ground that it was born in to. It may be small, but it's the way it was meant to be. In this country, whatever you can think of, you may think it looks nice, its not just [fertilizer] in it, there's much more. (PII OM 02 AH; first generation male).

I personally processed food I'm not too much for it, I'm more towards the organic side. (PII YM 02 ZK; second generation female).

In Bangladesh it is better. If you want to buy let's say vegetables, you can get it direct from [farmers]. It is not like the processing. In this country it has got all chemicals in it, and the packaging, so many things. If you are talking about freshness, definitely I would say Bangladesh. The food there is more fresh, no packaged foods. It's all directly fresh. (PII YM 03 MSS; second generation male).

I don't think it's good anyway for the, for an individual to be consuming so much food which has so much chemicals in it. (PII YW 05 YC; second generation female)

The difference in farming systems was also noted in relation to the intensive farming system in the UK versus the free-range farming common in Bangladesh. The significant difference in the meat between Bangladesh and the UK noted with most believing that in Bangladesh it was superior. While it is possible to buy free-range, organic chicken and other meat in the UK rather than the intensively reared stock, the price differential would make this option prohibitive for many.

In Bangladesh there is less [fat] on the food especially on the meat. In this country the meat has a lot of fat on it. That's the difference, and chicken too, in Bangladesh the chicken has no fat on it at all! Here I think the chicken is really quite fatty. (PII OM 01 SA; first generation male).

They are like the chickens you get in this country because they are farmed now. But they are disgusting – they are too big. (PII OW 03 RS; first generation female)

Maybe … we;;, for example chicken over here so much meat in the chicken, in Bangladesh I need to have sort of two whole chickens to, you know, make up one wing or something. Yeah. I guess…it's fresh out there. You get a chicken and you butcher it yourself and… you know, you make it yourself. Fish, you go fishing yourself and then do it yourself. (PII YM 01 AN; second generation male)

A number of comments were also made regarding the declining freshness associated with importing food, including many of the common foods they choose such as the Bangladeshi fish and some vegetables.

I think the vegetables are [better] and the fish is [better]; because its not [frozen fish]; you can get very fresh fish. That is very good, us Bangladeshis like our fish. Here we have to buy it frozen. (PII OM 01 SA; first generation male)

There are fresh things available mostly. There is no need to keep frozen; there is no system for freezing. There are daily supplies. You go to the bazaars and bring fresh, as much as you want. It hasn't been frozen. It's not four days old. In this country, you'll find it's been brought over a week ago on the plane. You can't tell the fish…if the fish came over two months ago by ship. (PII OM 04 MA; first generation male)

The difference is that it's fresh over there. It's brought fresh. I mean, I enjoy eating fish. I get it live and then sacrificed and then cooked and then eaten. You get a different taste to that, whereas when you eat it in England, it's been frozen and it's hard and it doesn't have that soft taste to the fish. And many other vegetables, what we can get in Bangladesh, it's difficult to get it here. When you do get it here, it's been exported from Bangladesh. On the way, the distance,

in the journey, the freshness goes. Whereas in Bangladesh, it's freshly sold in the shops. (PII YM 05 AH; second generation male).

6.0.3.5 Travel to and from Bangladesh

Travel to and from Bangladesh is common amongst members of the Bangladeshi community, due to the continued strong ties with their homeland, thus helping to reinforce traditions and cultural food habits. Frequency of travel was dependent on affordability; furthermore it appears that it is the men who travel more frequently.

Yes. I can't afford to go every year, but I try and go every other year. (PII OM 03 HRK; first generation male)

I went last year. But not often innit, I went last year. I've been three times so far. (PII YM 02 ZK; second generation male).

I do, yes. …I go probably…once every four years. It depends, in the situation… I might end up staying a year. Last time I went there I was there for 12 months. …Average visits are about two months… …I do enjoy spending time in Bangladesh. (PII YM 05 AH; second generation male).

No. only for holidays and that was twelve years ago. (PII YW 05 YC; second generation female).

Other than the freshness of the food in Bangladesh as has already been discussed, it was also noted that there are significant lifestyle differences between the UK and Tower Hamlets in particular, and Bangladesh. This aspect will be discussed further in section 6.3 on physical activity.

And our village is large and you have lots of space to walk about there. You can get up and go to see different people in the village. (PII OW 03 RS; first generation female)

The first generation participants noted the significant changes that were occurring in Bangladesh in relation to the types of food available and the way it is produced with the differences between countries starting to narrow and becoming more homogenous with the increasing urbanisation of communities and globalisation of the food chain.

[I]n this country the chemicals, mind you even in our country now they have introduced chemicals in some places, some places use fertilizers and things. But when I was young we didn't have those things. (PII OM 02 AH; first generation male).

Now it's very different. You have gas not just in the towns but also in the villages. Before we had to cook on wood fires. So it's very different and it was harder cooking on wood fires. Now its much easier there. (PII OW 03 RS; first generation female)

You can get them ready ground there now, in the packets. The same ones, they have 'RAJA' on the packet… But nowadays they don't grind them freshly as much. More and more people are buying them in the packets. (PII OW 03 RS; first generation female)

Since the last three or four years now you can get everything in Bangladesh, everything from this country. It even has it written on the pack that it's foreign. It will say England on it. They have opened a really big shop, like Sainsbury, I think the owner is American. It's in our town and you can find everything that you want. It's like Sainsbury, even with trolleys. (PI OW L; first generation female)

6.0.3.6 Isolation

Isolation was noted as an issue for the first generation women within the community, by the first generation women themselves as well as the men, particularly in relation the ability to access information due to not leaving the house very often.

I think that women don't really leave the house too often and so they don't get the [information]. You will have to include them, get the [information] to them. For many at the [maximum] they are going to the GP. [Normally] they don't go to any gathering and so they don't get [information]. (PII OM 01 SA; first generation male)

I think those people that don't go out very much and so don't have the opportunity to learn. So that would be women I suppose. (PII OW 05 RB2; first generation female)

I can't really answer these questions I don't go out as much as other people do; I'm not very smart either. I just live my normal life. (PII OW 01 SB; first generation female; arrived age 28).

6.0.3.7 Literacy and language

Communication difficulties were highlighted in relation to the inability to understand and/or read in English and/or Bengali which is of particular concern when attempting to access information. Once again, this mostly affected the first generation women, only amplifying their isolation within the community, but also affected some of the first generation men.

And the television and radio programmes will often be in English and so they don't know about eating, if it was in their language it would be very useful. (PII OM 01 SA; first generation male).

It would be good, if people were able to understand – there are lots of Bengali women who don't fully understand Bengali [Bangla TV doesn't broadcast in Sylheti]. (PII OW 04 MB; first generation female)

As long as they could explain the information, so they would need an interpreter. Not everyone will be able to understand the doctor when they talk in English. At the centre the staff there

would explain what the nutritionist was saying and that was good. (PII OW 05 RB2; first generation female).

They are weak in English and for that reason, even some of them can't read or write, so it's very difficult for them to understand what they're eating and what they're not eating. (PII YM 05 AH; Second generation male)

It's quite hard with the Bangladeshi population because even if you were to distribute leaflets, some of them don't even speak, read or write Bengali, so it's quite difficult that one! (PII YW 05 YC; second generation female)

It was highlighted by the one of the second generation men, ZK, the issue of family members interpreting for their parents in that it was difficult to relay often complex information and was therefore not confident that was translating the information correctly There is an issue of cultural appropriateness in having a child translating for the adult. Official translators should be used by healthcare professionals as is currently recommended under clinical governance guidance. Of note however is that the government is currently looking to make changes to the translation services provided in an effort to encourage people to learn English. This approach brings back the personalisation agenda and not making societal changes; blaming the victim. The issue as a whole can be seen as a double edged sword, actually adding to the issue of segregation at some level which ever way it's approached.

I go with my mother yeah, and I go with my mother and the dietician is speaking, yeah, I'm trying to explain to her. And sometimes this is new information for me so I'm trying to absorb it but at the same time, absorb it, and at the same time trying to tell my mother as well… Imagine me as well, I'm not a very good translator, so I can't translate properly. And whenever I do say something I think its what, you know what I've said right. But maybe it's not what my mum needs to hear, it's maybe in a different way. So that communication level needs to be improved, that method. (PII YM 02 ZK; second generation male)

The issue of language and literacy was also cited as a reason for not accessing the information on food labels.

If I could read English then maybe I would! (PII OW 01 SB; first generation woman)

6.0.3.8 Lifestyle

Lifestyle factors including employment, caring for children or other family members, salat (prayer) and time away from the home all impact of the food choices made by the participants with significant variations seen between the generations and the genders. Lifestyle also impacts greatly on level of physical activity; the results relating to this are presented in section 6.3.

The boys are out more, they see these things, they see all their friends eating it and so they want to. She doesn't really go out as much, she comes straight home from school. And she's not really that bothered about it either. She has it sometimes; they bring it home for her. (PII OW 03 RS; first generation female).

We all have lunch together, but we can't have dinner together because the children might be out. (PII OW 04 MB; first generation female).

I think the lifestyle has taken over because when you're in classes you never realise like that. And because the Monday and the Thursday you're fasting, so that's like two days gone, in the weekend you don't have time as well because you're like running from salat [prayer] to salat, and things like that, so you don't have time to think about you need food in your stomach, you just need that to just survive, you just need to survive, you don't eat because it's a luxury. (PII YM 02 ZK; second generation male).

At work, only because I'm running around I can only snack on sandwiches because it's really convenient and I don't really want to get into a whole messy type of food. (PII YW 05 YC; second generation female).

6.0.3.9 Summary of Environmental Influences on Food Choices

Exploration of the macro level barriers to healthy eating revealed a number of environmental influences, including in particular, the access to and availability of traditional food items within the Tower Hamlets community, the effects of physical isolation together with poor language and literacy skills, the food production methods both in the UK and Bangladesh, and the effect of increasingly changing lifestyles and acculturation to the British society.

Physical accessibility, with respect to transport, when purchasing food was generally not considered to be a significant obstacle with a combination of options being chosen based on both convenience and cultural preferences. As noted by the participants, supermarkets on the whole were more likely to be used for store cupboard items therefore may only be visited once a week or fortnight using a car and often with the assistance of children for the first generation. Fresh produce on the other hand was mostly available at the various markets and local Bengali grocers within walking distance from homes and therefore visited on a daily or second daily basis although there were differences seen across the Borough. The main issue with lack of access was identified by the first generation participants in relation to the lack space to grow fresh produce as they may have been able to do in Bangladesh. As such, the desire to have access to a garden was a common wish but many made do with what space they had available, even if this was only a few potted planted on the balcony.

The globalisation of diets and markets was reflected in two major areas; the availability of traditional foods and how this affects the choices made, and the overwhelming increase in the number of fast-food outlets available within the borough of Tower Hamlets. Regarding the

availability of traditional food items it was noted that currently there was very good and ever increasing variety of imported traditional Bangladeshi items such as frozen fish, fresh vegetables and various spices which is a reflection of the large Bangladeshi community in Tower Hamlets. The first generation participants were able to provide an oral history of the changes in availability of traditional Bangladeshi foods and the impact this has had on the traditional diet since the main waive of migration beginning in the 1970's. Unlike the negative impact on diet seen in the early years of migration which saw a large increase in the intake of 'feast foods' such as chicken and red meats, and the reduction in intake of fruit and vegetables, more recent improvements in health knowledge together with increased availability of imported produce such as the Bengali fish and vegetables has resulted in positive dietary changes amongst the first generation and seen a conversion back towards a more truly traditional diet less dominated by the 'feast foods'. For the second generation however the dietary changes have resulted in a largely negative impact on food culture with the unhealthy aspects of both the traditional style and western diets combining. That is, a predominance of meat based curries and a lack of vegetables and fish together with the over-consumption of high fat and salt fast-foods, for some on a daily basis, as a consequence of the excessive availability of fast food outlets and in particular the cheap halal fried chicken and chip shops which have been almost universally recognised as a considerable problem for the community, both now and for their future health.

Dietary change within the intercultural context was seen as a consequence of migration from Bangladesh to the UK but is also continuing to be influenced by relatively regular travel back to the homeland for extended periods of time by both first and second generation participants, and in particular for the male members of the community. Continued links with family and the community in Bangladesh has helped maintain the social cohesion and the importance of being Bangladeshi, including reinforcing traditional food habits. Cracks are emerging however in the traditional Bangladeshi food culture as a consequence of an increasingly globilised food chain as demonstrated by the increasing number of imported 'English' foods, supermarkets and convenience foods such as ready ground spices becoming more common in rural Bangladesh as they are in the UK, resulting in the beginnings of an homogenisation of culinary cultures, together with a decline of the traditional patriarchal society as the second generation women are becoming educated and taking up employment which is in stark contrast to their mothers. These changing roles within the traditional family structure has led to greater time spent away from the home, the need for childcare and is impacting greatly on the traditional food culture with respect to time available for food procurement and preparation, and a change in the family meal time structure as noted in the section on socio-cultural factors.

Unexpectedly, lack of affordability and poverty was not raised as a major barrier to choosing a healthy diet by the participants, despite many being in families solely reliant on welfare payments for their income and thus having total household incomes of less than ten thousand pounds annually. There was some disagreement as to the expense, or not, of fresh fruit and vegetables although many, including the second generation men, noted that it was in fact cheaper to have fresh food prepared at home rather than relying on convenience foods. It was

unanimous that quality was the more important predictor of whether fresh fruits and vegetables were chosen versus price alone. Where price did become an issue was the ability to purchase organic produce which was seen by both first and second generation participants to be of far superior quality. This was influenced to a large degree by the rural background of the participants, especially for the first generation who noted they were brought up with their food being born from the ground and straight to their plate unlike the intensive agricultural and meat production systems seen in the UK. The only other impact of affordability was where occasional compromises may have needed to be made to the foods purchased in the weekly shop, and whereas for most they considered their fresh fruit and vegetables to be essential, at least most days, some did note that they would bend to the preferences of their younger children and buy sweets instead if money was limited; this was not however common.

Isolation, together with poor language and literacy skills were shown to be significant barriers to health knowledge for the first generation females in the community. To a large degree this was as a consequence of their cultural background with every one of the first generation female participants interviewed having no educational qualifications, was unemployed and spoke only Sylheti[59] despite living in the UK for many years. This affected confidence to leave the home setting for some, but more so the ability to access a variety of information whether it is written, on the radio or on television, including the community stations and channels, as this was only available in English and / or Bengali. As a consequence the first generation women were very reliant on their husbands and other family members for their health information. Some of the second generation male participants noted accompanying their mothers for medical consultations but noted that this was often culturally inappropriate plus that they lacked the skills to be able to interpret and translate the often complex information. One of the women noted that she would read advice such as food labels if only she were able. Limited language and literacy skills also affected other members of the community but none to the degree of the first generation women a fact recognised by the wider community. For the second generation women, changing traditional roles and lifestyles has meant that they are not experiencing the isolation of their mothers.

See figure 6.3 for an illustrative summary of the environmental influences on food choice.

[59] Sylheti dialect is a spoken only language of Sylhet in the North Easter Region of Bangladesh and is significantly different to Bengali the national and official language of Bangladesh.

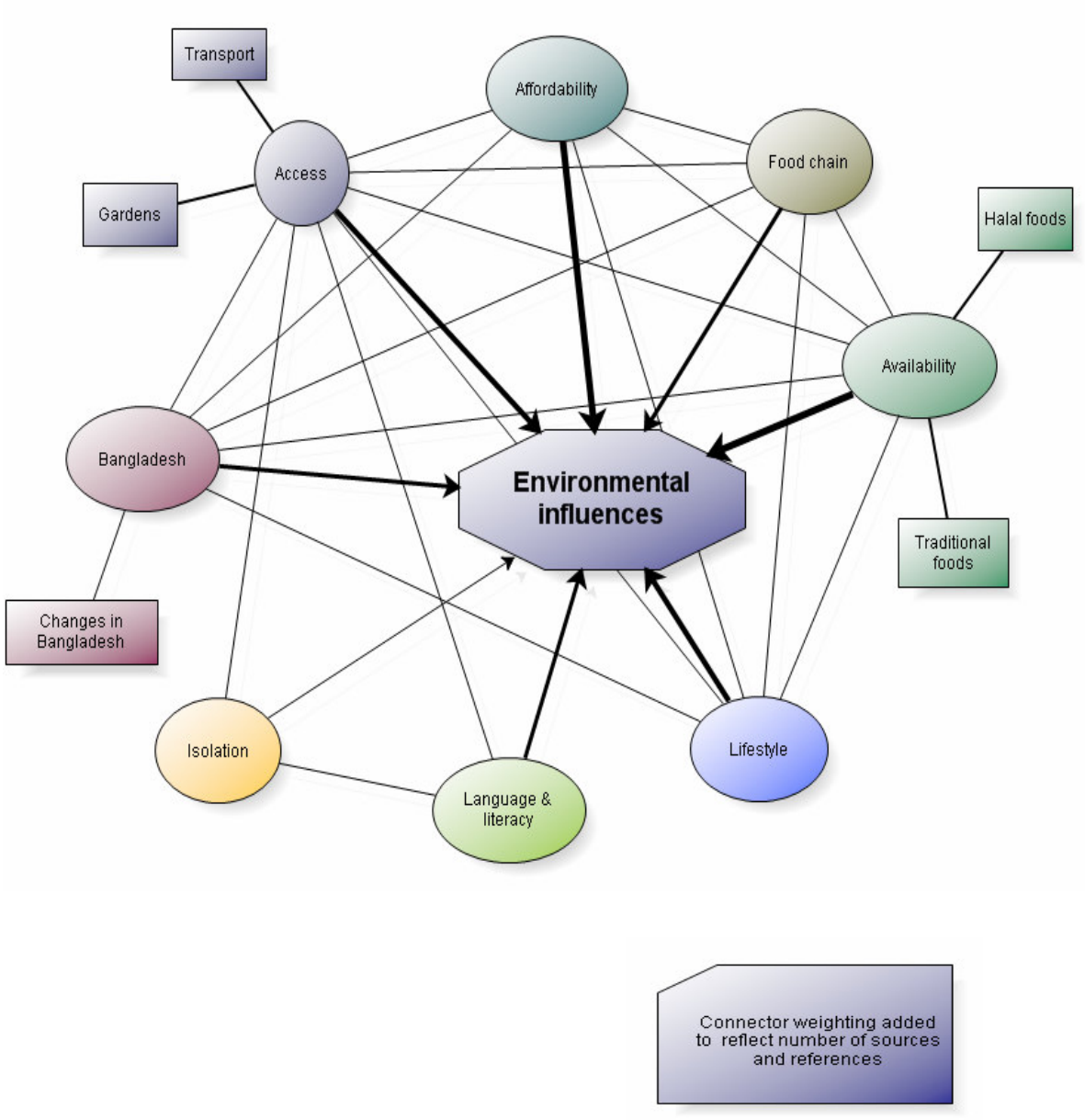


Figure 6.3 Environmental Influences on Food Choice

6.0.4 Physiological influences

While the topic guide did not specifically address physiological influences, a number of themes were identified by the respondents as described in table 6.2. This dimension was significantly smaller than those in relation to the socio-cultural, psychological or environmental factors effecting food choice.

Specific questions being addressed in this section:

- What are the attitudes and beliefs in the Bangladeshi community towards food and food behaviour?
- What factors contribute to the maintenance of traditional food practices?

- What factors contribute in both groups to making healthy dietary choices?

Themes	Description
Digestion	Comments made about food and the effect on digestion; gastric conditions
Hunger	Reason for skipping meals or not
Illness	Effect of illness on choice
Strength	Food and perceived effect on strength

Table 6.2 Theme Cluster: physiological influences on food choice

6.0.4.1 Digestion

A few of the first generation participants noted they had dietary restrictions due to 'gastric'. Fat was the dominant issue, with one of the men noting this to be a significant issue for restaurant workers who consume the high fat food produced there in a regular basis. Others noted fruit and 'brown' food to be problematic.

… but I can't eat fruit. I get stomach pains if I eat fruit and get too much gas. Apple and pineapples especially. (PII OW 03 RS)

I get milk that is low fat, I buy diet foods because of the cholesterol, and I have brown foods, brown foods make my gastric worse, but I still have it. I told my doctor that brown foods makes my gastric worse but he told me to still eat it, and have diet foods.(PII OW 05 RB2)

They'll have one curry, one rice and they often have heartburn, some can't [digest] it, some have [gastric]. [Gastric] is very common. (PI OM P2; first generation male)

6.0.4.2 Hunger

The men interviewed reflected on the effect of hunger and its affect on sleep and intake outside food.

… if you don't eat rice in the evening then it affects your sleep, because you can't sleep when you are hungry. (PII OM 02 AH; first generation male)

I think the main thing is…sudden hunger. If I'm suddenly hungry or when I'm with friends I'll go in. Apart from that, I've no desire really. (PII YM 05 AH; second generation male)

Your hunger is never sated outside. (PI OM P2; first generation male)

6.0.4.3 Illness

Comments relating to the effect of illness were mostly in relation to the first generation participants whether noting this themselves or the second generation noting this about their parents. Illness impacts on both food intake and physical activity.

Even when you are in the shop you see people who might want to buy some foods but they won't because there is someone in the home that has diabetes and it will be a problem. (PII OM 02 AH; first generation male)

I do go out sometimes, I've told you about my health. Like today I don't really feel like going out, I just want to lie down. When I feel well I go down and go for a walk. (PII OW R3; first generation female)

My dad's a diabetic so he can't have nothing sweet, do you get me? Anything like mangoes are not like on the list. (PI YM P1; second generation male)

6.0.4.4 Strength

Only one participant made reference to strength giving foods and this was in relation to rice, which is as noted in chapter one, related to the belief that one cannot be strong without rice (Rizvi N 1986).

There are three types of boiled rice, three strengths. (PI OW P3; first generation female)

6.0.4.5 Summary of physiological factors affecting food choice

Due to the potential influence of Ayurvedic health beliefs and food classification, the physiological impact of food choice for good health was anticipated to be discussed more widely by the participants however the interviews did not draw this out. The four areas mentioned were 'digestion', 'hunger', 'illness' and 'strength'. Digestion concerns were typical of the wider population and related to the avoidance of high fibre foods due to poor tolerance and high fat food due to gastric reflux. Comments around hunger and strength appeared to be more rooted in traditional beliefs of the need to have rice for strength and to adequately satisfy hunger. With respect to illness comments were made about other members of the community or family having dietary restrictions as a consequence of diagnosed diabetes.

6.1 Dietary Patterns

The community participant interviews revealed a number themes in relation to the dietary patterns within the community, with changes occurring predominantly based on new taste preferences, firstly to accessory and complementary foods, but with fewer to the staples that form a dominant component of their traditional food culture. This observation has been described in previous work by Kocturk-Runefors (Kocturk-Runefors T 1991) who developed a

model describing the process of adaptation to new dietary patterns following migration. To triangulate this information, section 6.2 goes on to provide the results from the Multiple Pass Dietary Recall. Table 6.3 provides a description of the six major themes identified.

Themes	Description
Traditional diet	Specific details about what constitutes a traditional diet. The retention of, or changes to the traditional diet; in particular the staple items which give Bangladeshi foods their identity.
Western diet & urbanisation	Impact of Western dietary practices and/or the effects of urbanisation such as the increase in traditional but high status foods; intake of ready meals; take-away foods.
Diet changes	Changes to cooking practices and dietary patterns as a consequence of responding to health messages such as reducing fat, salt and or sugar.
Quantity	Comments made with regard to the quantity of food eaten overall and/or specifically portion sizes at meals. Related to over-consumption.
Snacks	Specific types of food eaten between meals. The 'what' is eaten versus the 'how' in relation to meal patterns.
Drinks	Specific types of drinks consumed or not.

Table 6.3 Theme Clusters: dietary patterns

Specific research questions being addressed:

- What characterises a traditional Bangladeshi versus a more western style diet?
- What are the main changes in food choice for the first generation over the years since migrating to the UK?
- What are some of the differences in the eating patterns of two generations of British Bangladeshis? How and why consumption style has changed?

6.1.1 Traditional diet

Rice in particular continues to be a staple food for the Bangladeshi community, giving the meals their identity, with little difference being seen between the generations or genders. Rice has been described as the 'cultural superfood' for this community. For the first generation fish is also seen as a very important staple, especially shutki (a type of dried fish) and some varieties of small Bengali freshwater fish; the same is not true for the second generation.

We are rice, you know, we have to eat rice – they laugh at us about this. (PII OM 02 AH; first generation male)

'Traditional Bangladeshi foods' would be, say, shutki, it is [dry fish]. We have been eating it since aforetime in Bangladesh. (PII OM 05 FA; first generation male)

Every day! I personally wouldn't be able to live for a couple of days without rice I think, which is, as you know, the traditional way of going about food. Erm… yes, so every day. Every now and again we'll try and change the way we do things, but we've tried and failed, it never works. (PII YM 01 AN; second generation male)

[C]oming from the Bengali background we tend to usually just have our rice and curry. (PII YW 05 YC; second generation female)

Despite changes it was noted by second generation participants that they feel the need to continue to have traditional style foods as a regular component of their diet.

Obviously we miss all of that even in the weekends if we're out whatever, because we miss the lunch meal, the night meal is quite essential to have rice and curry for me. (PI YW P1; Second generation female)

6.1.2 Western diet and urbanisation

While first generation men and women are tending to maintain traditional eating patterns, changes that are being made tend to be associated with urbanisation rather than westernisation, for example an increased intake of oil and meat and a reduction in the intake of vegetables and fruit, a change which has obvious negative health consequences. This urbanised version of the traditional diet is what the second generation tend to associate with rather than the authentically traditional dietary pattern consisting mostly of rice, fish, pulses and fresh vegetables with minimal added oil.

I think it is different, for this reason: over there, to tell the truth, fatty food is eaten rarely over there, in Bangladesh? Over there I've seen, the area I'm from, we have mostly vegetables and herbs. You can get fresh vegetables in plots, empty spaces, in the bazaars there is fresh fish available. Meat you must imagine once a week, or twice, otherwise vegetables and fish go mostly. In this country we are always eating meat and fish. (PII OM 05 FA; first generation male)

In Bangladesh the food doesn't have that; it has less oil and less fat. Everything is fresh. (PII OW 02 RB; first generation female)

And as for the children, they can't do without chicken and meat. (PI OM P2; first generation male)

The second generation men and women appear to be taking on Western eating patterns, although the selection tends to be predominantly limited to high fat take-away foods and a selection of convenience foods, expressing the desire to increase the variety in their diet in comparison to their parents. The second generation respondents also indicated that their younger siblings more and more were developing a preference for fast-foods and a more

western style diet. First generation Bangladeshis tend to have Western style foods as a consequence of their children's influence and preferences rather than their own. Taking on such eating patterns is likely to have significant implications for the prevention of obesity and consequently Type 2 diabetes.

[Both] we have Bangladeshi traditional, but a lot of the time if the children say they want something then British food is cooked, traditional British food… All kinds, pasta, fish and chips, lots of bread type things. Sometimes they get KFC or McDonalds. (PII OM 02 AH; first generation male).

They prefer crisps, sandwiches. Like my daughter doesn't have a cooker in her house and I worry every day, but she says she prefers to eat easy food! It's been a month since she moved in to her new home, my middle daughter, and she doesn't have a cooker. My heart hangs out at the thought of what she is eating. But she says that she is eating, she says that she can eat anything it doesn't have to be rice. (PI OW P3; First generation female)

At lunch time every day at work I am eating chips, chicken and wings. Pizza and these things only when I go out sometimes. (PII YM 03 MSS; second generation male)

The youngest one lives on take-out food and mum actually has to cook him different stuff he just doesn't like rice that much, so mum will go out and cook him something different. She'll do pizza for him, spaghetti bolognese, erm what else, and then apart from that he will just go out and get his take-outs. (PI YW P1; Second generation female)

There appears to be a flux in dietary patterns of some of the second generation participants. AN, a second generation male noted that while the younger people in his community are having take-away food on a very regular basis, for this participant, as he has got older, he is now changing and having less of these foods. This is possibly due to now working and buying food from canteen rather than with friends together with the fact that AN now has a higher disposable income to allow greater choice in foods bought away from the home. It was also noted that while some members of the Bangladeshi community are changing to healthier foods, overall choices have always been relatively healthy for the older generations. The youth are pulling towards western foods whilst the parents and elders are trying to pull them back to more traditional diets.

Maybe the youngsters… When I was young. When I was younger, a teenager, I used to go for MacDees, but now I've grown out of it, and … I think with the Bengali culture generally, are kind of shifting towards the healthier … I think they are healthy anyway – apart from the fact that they have a lot of oil and salt. I think they are moving towards a slightly healthier… if you're talking [of] moving towards a Western way of eating, I don't know. I think they would like to, the youngsters would like to but … parents, families, the elders, the seniors, are kind of dragging them back a bit in that way. (Second generation male; PII YM 01 AN).

6.1.3 Diet changes

A number of positive changes have also been highlighted in relations to cooking practices and dietary patterns in response to health messages and recommendations such as reducing fat, salt and/or sugar. Some changes are being made unnecessarily however as a consequence of misconceptions such as reducing spices in cooking.

Coke, I used to drink a lot of coke before, and I have had to slowly cut back. I still have it now but have very little. (PII OM 03 HRK; first generation male).

She uses less ghee. Sometimes instead of ghee she will use oil that has less fat. Also, when we have [the traditional Bangladeshi] stir-fries, the masala is reduced, the hot spices are reduced. (PII OM 05 FA; first generation male).

For breakfast in the morning, before I used to have bread with butter, now I don't even have that, I have a nan with any vegetables. (PII OW 02 RB; first generation female).

To be honest you've got me at a time now when actually I've changed all my feeding, eating habits. Before obviously it was rice and curry and you've got no fruits at all, fizzy drinks, a lot of chocolate, crisps. And recently its been, like a good few months, two or three months maybe, I've totally gone off fizzy drinks and its only one-off, like sometimes, and most of the time, rice and curry is very low. I mostly have dates, bananas, apples. (PII YM 02 ZK; second generation male).

And my other brother, they, they're alright, they have cut out some coke and my niece now says she doesn't want coke, she chooses juice over coke which I'm quite impressed with. So they're cutting out on stuff as well. (PII YW 03 SS; second generation female).

6.1.4 Quantity

A few of the first generation participants made comments about the need to limit the amount eaten such as not having second helpings and/or reducing service sizes.

If there is a curry, you'll see some people will get two helpings, sometimes three. I will get the one curry just the once. (PII OM 04 MA; first generation male)

It is best not to eat too much in one go, rather eat small amounts through the day. (PII OW 05 RB2; first generation female).

6.1.5 Snacks

Snacking was common amongst the majority of participants however the first generation were more likely to have biscuits, fried snacks such as bhajis or occasionally fruit. The second

generation participants were more likely to have more western style snack such as crisps, chocolate and fizzy drinks although they were also more likely note having some fruit.

A little. Samosas, biscuits, breadsticks, fresh fruit. (PII OM 04 MA; first generation male)

Sometimes I'll make onion bhaji or something like that. There are so many things you can make. I just have whatever takes my fancy. Some days it'll be just tea and biscuits and some days I make something. (PII OW 01 SB; first generation female)

Maybe bread sometimes – sandwich but not sweets or crisps. I always have tea and biscuits in the afternoon. (PII YM 04 AS; second generation male)

Crisps, sweets, chocolates, drinks, sandwiches at times, these are the types of food I normally eat when I'm outside. (PII YM 05 AH; second generation male)

Yeah, snacks. Crisps, sweets and fizzy drinks. All that. (PII YW 04 SB; second generation female)

6.1.6 Drinks

There was only a small amount of discussion regarding the types of drinks consumed however for those that mentioned their drink consumption tea and water were the most commonly consumed beverages for both the first and second generation but especially the first generation women. Juice consumption was quite variable between generations, while fizzy drinks were most likely to be consumed by the second generation participants. There was no discussion regarding the consumpition of alcohol, which considered haram, except in relation to being unhealthy as with fatty foodsand pricing compared to water (see page 197 and 254; sections related to health knowledge and affordability).

We drink, but soft drinks which is available in the shops, including Bengali shops. There is orange juice, there is pineapple juice, all kinds of drinks go in my household. We all like [such drinks], we all drink them. (PII OM 05 FA; first generation male)

I have a cup [tea] *in the morning and one in the evening. Twice a day… I don't drink anything other than water and twice a day. Or sometimes three times a day.* (PII OW 03 RS; first generation female)

I need to have er, tea and I'll have, that's just I think that's part of tradition I just grew up with that, tea. (PII YM 02 ZK; second generation male)

When I drink it will be like tea or drinks like coke or juice. (PII YW 04 SB; second generation female).

6.1.7 Summary of Dietary Patterns seen within the community

Changes in dietary patterns appear to be typically occurring in line with the model for adaptation to new food patterns put forward by Kocturk-Runefors (1991), beginning with the accessory and then complement foods, whilst the staple starch based foods remain constant for all. The traditional diet remains important to the food culture of the first and second generations, especially with respect to rice. The first generation also continue to enjoy fish on a regular basis, especially shutki and fresh Bengali fish, with increases in frequency, now possible due to the increased imports, reflecting the traditional diet of the homeland. For the second generations the frequencies of consumption of traditional meals has reduced but are still considered essential. Many of the changes within the traditional diet have occurred as a consequence of urbanisation, as opposed to westernisation, such as the increased consumption of red and white meat and the reduction in fruit and vegetables. The second generation are seeing their diets become more westernised as they increasingly consume take-away foods such as fried chicken and chips, together with a limited range of convenience foods such as pasta and sauce, and pizza. The findings indicate that the dietary changes are in a state of flux within both generations as the first generation are reverting back to traditional diets more reflective of those originally seen in Bangladesh whilst some of the second generation are choosing to limit the take-away foods and are seeking healthier choices.

Snacks and drinks are more variable between both generations although the first generation tends to have biscuits and traditional fried snacks with tea and water whilst the second generation are more likely to have chocolates, crisps and fizzy drink. Neither group tends to have fruit on a regular basis as a snack although the second generation appear a little more likely, as they are to consume fruit juice.

The quantity of food consumed was identified as a concern by a few of the participants who noted that large serve sizes should be limited, preferably spreading across the day, in order to prevent ill-health including diabetes. Furthermore the resonance between Islamic teachings and healthy eating messages such as the need for portion control was noted when discussing the need for ‘measured eating’ and the avoidance of having ‘seconds’.

See figure 6.4 for a summary of the themes within the cluster dietary patterns.

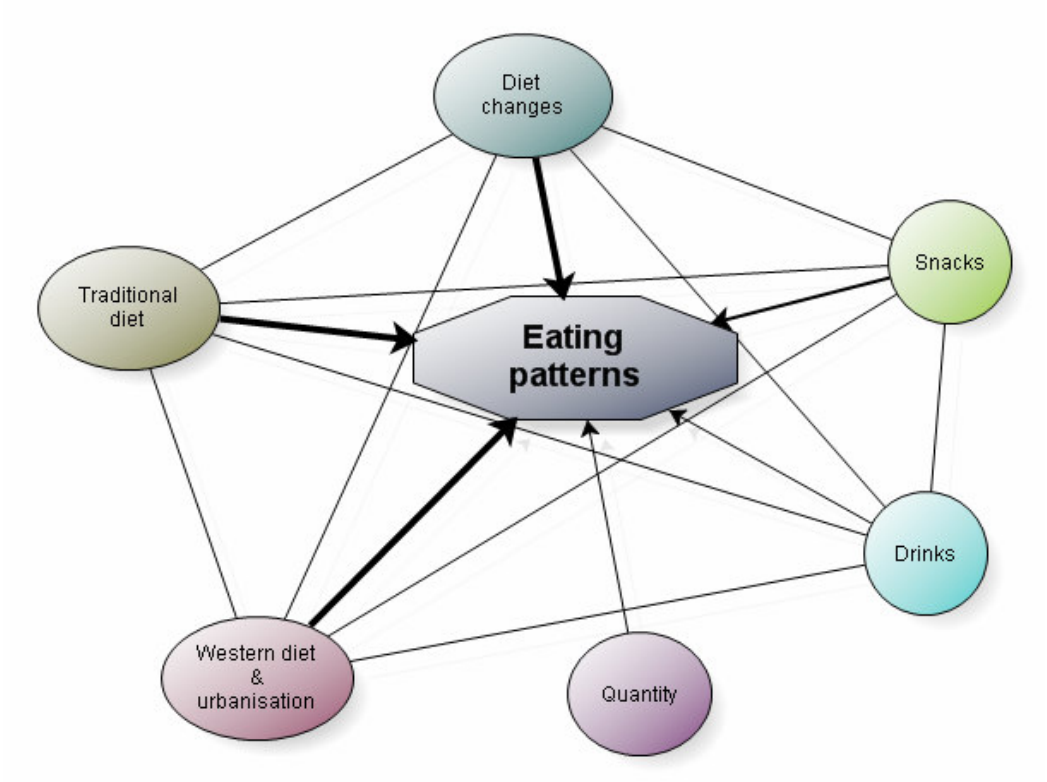


Figure 6.4 Summary of themes within the cluster dietary patterns

The factors leading to these dietary changes such as sociocultural, psychological and environmental, can be summarised by the PRECEDE model (Kocturk-Runefors T 1991) into predisposing factors, reinforcing variables and enabling factors and will be outlined in the chapter 8, the discussion.

The following section, presentation of findings from the multiple pass recall, is included now to triangulate the specific dietary information from the semi-structured interviews.

6.2 Multiple Pass Dietary Recall

The data presented at this juncture, as noted previously, does not form part of the nub of the research which is derived from the semi-structured interviews, but rather contributes to the overall credibility of the interview data. As such, reference will be made to this data in the discussion where it corroborates or elucidates the responses from the community participants or the key informants.

This section thematically presents the findings from the multiple pass recall with a sub-group of the community participants who participated in the phase II one-to-one semi-structured interviews. Two people from each of the four community participants groups[60] were recruited representing a twenty percent sample. Due to the nature of the data the results have been primarily presented in tabulated form and where commentary has been provided this comes

[60] First and second generation, male and female

from the research participants themselves and assists in further illuminating the food consumption data.

As with section 6.1, the specific research questions being addressed were:

- What characterises a traditional Bangladeshi versus a more western style diet?
- What are the main changes in food choice for the first generation over the years since migrating to the UK?
- What are some of the differences in the eating patterns of two generations of British Bangladeshis? How and why consumption style has changed?

6.2.1 Meal patterns of community participants

The first group of data sets out the findings in terms of the overall meal pattern including number of hot meals and snacks per day, time taken and where relevant, whether they represented a *Traditional* Bangladeshi diet characterised by home cooked food such as curries, and a higher intake of fresh fish, rice and pulses and/or a *Western* pattern characterised by higher intake of meat such as lamb and chicken, processed meat, refined grains, sweets and desserts, take-away foods and high fat dairy products.

Meal	Time	Traditional Choices	New trends
Breakfast	08:00 – 09:30	Leftover curry and rice Tea with sweetener and full cream milk (FCM) Water	White or wholemeal bread toasted with spread (most regular choice) Croissant with spread Pancakes with honey
Lunch	13:00 – 14:30	Basmati rice Curry – fish / chicken / prawn Dahl Bhaji Fruit – apple / pear (usually none) Water	Pasta bolognaise – lamb mince Vegetarian falafel
Dinner	19:30 – 21:30	Basmati rice Curry – fish / chicken / vegetable / prawn Dahl Bhaji – vegetable Salad (usually none) Fruit – apple (usually none) Water	
Snacks	Variable: Two to four per day	Fruit – apple / banana / oranges Dhal puri Biscuits Chana chur	French fries Pastry – croissant / Danish / Baklava Crisps

Meal	Time	Traditional Choices	New trends
	between meals	Tea with sweetener and FCM	Chicken nuggets Ice-cream Cappuccino (Occasional) Ribena (Occasional)
Number hot meals / day		Two meals of rice and curry, three if leftovers eaten for breakfast	One non-Bangladeshi meal may be taken away from home at work

Table 6.4 Meal patterns of first generation male participants in Tower Hamlets, UK

Participant comments:

PIII MPR OM HRK

Food prepared by spouse.

"I would consider the food I had fairly healthy because of the amount I had and the type of food I have. I very rarely eat meat, except in small quantities, like with my pasta today. The Moroccan people who run the work canteen make it fresh every day and healthy. I do eat a lot of fruit during the day – sometimes more than the 5-a-day that health people talk about. And my wife and I normally eat only fish when it's just the two of us eating together."

"You probably couldn't say the food I had [on Saturday 23 June] was healthy because on the weekends the kids really pull at you and you have to cater to their tastes too – can't just think of yourself – and relatives want to treat you well as is our custom but thankfully they understand that I am one of those people who watch what I eat."

"I would consider the food I had quite healthy – you can surely tell by the type of food I have I am always careful of what I eat."

PIII MPR OM SA

Food prepared by spouse except on one occasion.

"I would consider the food I had fairly healthy because of the amount I had."

"I would consider the food I had not so healthy because of the amount I had and the type of food – especially the pilau, which seemed to me a bit oily but one cannot complain about food prepared 'with kindness' and sent by relatives."

"I would consider the food I had was not healthy because of the amount I had. I was working from home this day, so probably ate more than I would normally. My wife uses rapeseed oil because it is supposed to lower the cholesterol. I normally eat fruit but didn't because there wasn't any at home."

Meal	Time	Traditional Choices	New Trends
Breakfast	10:00 – 11:00	Tea with SSM + sugar	Cereal plus semi-skimmed milk (SSM) White bread toasted with margarine
Lunch	14:00 – 17:00	Basmati or long grain white rice Pilau rice Fried fish Curry – vegetable / fish / chicken	Curry - lamb
Dinner	21:00 – 21:30	Long grain white rice Curry – fish / vegetable / chicken	Curry - lamb
Snacks	Variable: One to two per day	Fried snack – dough Biscuits Tea with SSM + sugar	Egg and mayonnaise sandwich Poached egg on brown bread Slice brown bread Bread roll
Number hot meals / day		One to two meals of rice and curry taken within the home.	N/A

Table 6.5 Meal patterns of first generation female participants in Tower Hamlets, UK

Further comments:

PIII MPR OW RB

No comments made by participant.

Only food taken away from home was a sandwich. Noted that tuna was her first choice but not available. Bought at a local shop.

PIII MPR OW MB

No comments made by participant.

Drank 4-6 glasses water throughout the day mostly with food.

Meal	Time	Traditional Choices	New Trends
Breakfast	08:30 – 10:30	Omelette Tea with sugar and FCM	Cereal with full cream milk (FCM) Dried fruit on cereal Wholemeal bread toasted with margarine and jam Croissants Pancakes with jam / syrup Orange juice (occasionally)
Lunch	12:30 – 14:30	White basmati rice Curry – chicken Dahl	Curry - lamb Chicken and chips

Meal	Time	Traditional Choices	New Trends
		Water (with curry only)	Vegetarian pizza +garlic bread + salad Fizzy drink
Dinner	19:45 – 22:30	White basmati rice Curry – chicken / vegetable Bhaji Water	Curry - meat Lamb donner kebab (processed meat) + Quarter pound burger (processed meat) Pizza – vegetarian + garlic bread + salad Fizzy drink Fruit juice
Snacks	Variable: Two to four per day	Biscuits Traditional pastries Fruit Tea with sugar and FCM	Doughnut Cheesecake Chocolate Chocolate cake Muesli bar Chocolate milk shake Fizzy drink
Number hot meals / day		Curry and rice for lunch on weekend only	Two to three taken both at home and outside the house. Lunch predominantly outside food

Table 6.6 Meal patterns of second generation male participants in Tower Hamlets, UK

Participant comments:

PIII MPR YM AH

Curry meals prepared by mother or relatives.

"I would consider the food I had probably not so healthy but when I'm at home I eat a lot, especially in the day time. I need to eat more actually, especially as I'm training now in the gym"

"I probably worked off most of what I ate yesterday [Thursday 21 June] because I had a solid work-out in the gym. I reckon I'm not eating as much as I should if I want to put on muscle – I need to eat more meat."

"I find that I am able to eat a decent amount at the weekends because you know how it is, we get a chance to go to friends' houses and you can't get away without being stuffed. Our people just love to feed you!"

PIII MPR YM AS

Curry meals prepared by spouse.

"I would consider the food I had okay because some of my fellow driving instructors are big fellows!"

"I would consider the food I had not so healthy because of the type of food – bought from outside. Usually on a Friday we have food from outside."

"To be honest, when you go to a relative's house, you can't really [tell] them what they should give you and what they shouldn't. Most of the food I had was okay I would say. Maybe I should have had some fruit and things like that as well, but you don't always get that."

Meal	Time	Traditional Choices	New Trends
Breakfast	08:45 – 10:00	Biscuits Omelette with vegetables Tea with FCM	Pasta with egg Cereal with SSM
Lunch	13:00 – 15:00	Rice - long grain or basmati rice Curry – chicken / fish / vegetable	Sandwich: tuna & mayonnaise PFC and chips Fried fish
Dinner	20:00 – 22:30	Rice - long grain or basmati rice Curry - fish / vegetable / chicken Dhal Fried fish	Chips Pasta with egg
Snacks	Variable- Zero to two	Fruit – banana / mango Fried Asian pastry – dough with coconut	Crisps Chocolate bar Yoghurt Raisins Toast
Number hot meals / day		One to two Evening meal taken at home	Lunch taken at work or home

Table 6.7 Meal patterns of second generation female participants in Tower Hamlets, UK

Further comments:

PIII MPR YW YC

No comments made by participant.

PIII MPR YW SS

Drank 2-3 glasses water per day

Participant knew that Perfect Fried Chicken (PFC) was not a healthy option, but had not eaten it for a long time and it was eaten out of convenience and the fact that a colleague was also wanting to eat it.

Vegetables taken as part of curry.

6.2.2 Location of meals taken by community participants

One reflection of traditional and new trends in lifestyles can be observed in changing meal structure with respect to the location of meals such as the increasing number of meals consumed outside the home. As such, the community participants where asked details about where the meals were eaten. Table 6.8 provides a summary of the meal location of the meal consumed by each of the participants taking part in the MPR.

The anonymised code can be read as:
PIII = phase III
MPR = Multiple Pass Recall
OM = older man
OW = older woman
YM = younger man
YW = younger women
The initials represent the individual

Participant	Meal and Location eaten			
	Breakfast	**Lunch**	**Dinner**	**Snacks**
PIII MPR OM HRK	Home	Work Home	Home Home of relative	Work Shopping Home
PIII MPR OM SA	Home	Work Home	Home	Work Home
PIII MPR OW RB	Home	Home	Home	Home
PIII MPR OW MB	Home	Home	Home	Home
PIII MPR YM AH	Home	Home or home of sister Home	Home Restaurant Home of relative	Home Home of sister Home of friend Shopping Gym
PIII MPR YM AS	Home	Work Home	Home Home of relative	Work Home Home of

				relative
PIII MPR YW YC	Home	Home	Home	Work Home
PIII MPR YW SS	Home	Home Work	Home	Home work

Table 6.8 Location of meals taken by the community participants

First generation

Second generation

6.2.3 Details of food choices taken by community participants

This final section provides details of the food choices grouped according to the Food Standards Agency Eatwell plate (Food Standards Agency 2007) as shown in figure 5.7, section 5.8.2, and divided into groups according to the Kocturk-Runefors model. Details are also provided of the specific spices used, and types of curries and outside meals taken as identified by the participants. Where it is known that the meals taken are high in fat they have been added into the section titled "foods and drinks high in fat and/or sugar" however for the majority there is insufficient information to be able to determine this.

Group	Food type	Food choice	New trends in UK
Staple foods	**Bread, rice, potatoes, pasta and other starchy foods**	White basmati rice Wholemeal bread White bread Pita bread Pasta	Introduction of sliced and alternative breads. Mostly high glycaemic index breads. Introduction of pasta, chips, pastries
Complementary foods	**Vegetables**	Onions Gherkin Carrots Courgettes Mushrooms Cauliflower Lettuce Tomatoes Cucumber Runner beans	Less traditional vegetables Less vegetable curries

Group	Food type	Food choice	New trends in UK
		Capsicum Vegetable curry – cauliflower / gherkin/ carrots	
	Meat, fish, eggs, beans and other non-dairy sources of protein	Bangladeshi fish – mirca kheski hilsa bual Prawns Chicken – breast Lamb mince Chicken curry – unspecified Prawn curry Chicken nuggets	More meat curries Some introduction of alternative meat dishes at lunch time meal e.g. pasta bolognaise Introduction of processed meats
	Legumes	Chick peas Lentils – unspecified Dhal masoor Dhal puri – traditional thin pastry with lentil filling, deep fried Bhaji – runner beans, fried onions and capsicum some unspecified	Introduction of alternatives from different cultures such as falafel
	Milk and Dairy	Full cream milk Mozzarella cheese	New types of cheese – Italian style
Accessory foods	**Fruit**	Apple Orange Pear Banana	Less traditional fruits such as mango and breadfruit
	Snacks	Danish pastry Croissant	Introduction of western snacks in addition to

Group	Food type	Food choice	New trends in UK
		Baklava Biscuits – unspecified Chana chur Crisps Ice-cream	biscuits and fruit.
	Types of **fats** used	Butter Sunflower margarine	Reduction in use of ghee and change to butter or margarine.
	Drinks	Ribena (diluted)	Some introduction of high sugar juice drinks.
	Sugars	Jam	Artificial sweetener as an alternative to sugar
	Seasonings and spices	Unspecified	

Table 6.9 Details of food choices – first generation men

Group	Food type	Description	New trends in the UK
Staple foods	**Bread, rice, potatoes, pasta and other starchy foods**	Cornflakes Rice krispies Basmati rice Long grain white rice Bread – unspecified Bread - white	Introduction of refined breakfast cereals and sliced bread. Mostly high glycaemic index choices.
Complementary foods	**Vegetables / dried beans pulses**	Onions Cauliflower Potatoes Carrots Courgettes Tomato Marrow Vegetable curries: Mixed Tomato Spinach Pilau rice	Less traditional vegetables
	Meat, fish, eggs,	Bangladeshi fish	Introduction of tinned fish.

Group	Food type	Description	New trends in the UK
	beans and other non-dairy sources of protein	– mirca buwal fabya Tinned sardines Fried fish Chicken – thigh / breast Lamb Fish curry with marrow Fish curry - unspecified Sardine curry Cauliflower and fish Chicken korma Chicken – unspecified Lamb curry - unspecified Egg Egg and mayonnaise sandwich	Introduction of non-traditional Bangladeshi fish. Increased variety of curries. Continued preference for fish. Eggs used in sandwiches
	Milk and Dairy	Semi-skimmed milk	Use of reduced fat milks
Accessory foods	**Fruit**	None	Little or no fruit eaten.
	Snacks Types of **fats** used	Biscuits – rich tea Noon bora (salt fritter) - fried dough of flour and salt with tumeric Olive oil Sunflower oil Ghee (for pilau) Margarine – unspecified	Change to vegetable oils and margarine with ghee used on special occasion only
	Seasonings and spices	Garam marsala Tumeric Coriander Cumin Ginger Garlic Salt Mixed curry power Fresh green chilli Chilli powder	Use of prepared spices rather than freshly grinding

Table 6.10 Details of food choices – first generation women

Group	Food type	Description	New Trends in UK
Staple foods	**Bread, rice, potatoes, pasta and other starchy foods**	All-bran Weetabix Wholemeal bread White basmati	Introduction of cereals and sliced bread; mostly high glycaemic index choices. Pizzas
Complementary foods	**Vegetables**	Spinach Capsicum Onions Potato Lettuce Carrots Bhaji – potato Curries: Spinach, carrot and pea,	Less traditional vegetables Fewer vegetable curries High intake fried potato in form of chips. Pizza – cheese / tomato / chillies / mushrooms
	Legumes	Dhal - unspecified	Less legume curries
	Meat, fish, eggs, beans and other non-dairy sources of protein	Chicken - drumsticks Lamb – processed / shoulder joint Beef (processed) Eggs	Introduction of processed meats such as lamb donner and burgers. Meats in forms other than curried such as fried chicken pieces. Mostly meat curries – chicken and lamb rather than fish
	Milk and Dairy	Full cream milk	Cheese on pizzas
Accessory foods	**Fruit**	Dried cranberries Banana Orange	Change in types of fruits eaten from traditional
	Snacks	M & M chocolates Chocolate bar Biscuits – digestives / jaffa cakes Chocolate cake bars Doughnut Croissant	High intake of high fat and sugar western snacks

Group	Food type	Description	New Trends in UK
		Cheesecake Pancakes Bangladeshi pastries filled with coconut and deep fried Traditional pastries – baked	
	Types of **fats** used	Olive oil spread	Change to vegetable oil and especially olive oil instead of ghee or butter.
	Drinks		Regular intake of high sugar drinks.
		Fizzy drink Fruit juice Chocolate milkshake	
	Other	Chilli sauce Mayonnaise dip	Introduction of new high salt / sugar condiments.
	Seasonings and spices	Unspecified	

Table 6.11 Details of food choices – second generation men

Group	Food type	Description	New Trends in UK
Staple	**Bread, rice, potatoes, pasta and other starchy foods**	Cornflakes Brown bread Basmati rice Long grain white rice	Introduction of refined cereals and sliced bread; high glycaemic index.
Complementary foods	**Vegetables**	Onions Spinach Potatoes Frozen peas Carrots Cabbage Tomatoes	Use of frozen vegetables. High intake of fried potato in form of chips.
	Meat, fish, eggs, beans and other non-dairy sources of protein	Chicken – breast / thigh Bangladeshi fish - - Row (fresh) Foti	Mostly chicken and fish curries. Introduction of non-

Group	Food type	Description	New Trends in UK
		Buwal Tuna	traditional Bangladeshi fish such as tuna. Meats in forms other than curried such as fried chicken pieces.
	Legumes	Dhal – red lentils	Less legume curries
	Milk and Dairy	Full cream milk Semi-skimmed milk Yoghurt	Use of reduced fat milks
Accessory foods	**Fruit**	Raisins Banana Mango	Mix of traditional and new fruit choices
	Snacks	Asian coconut pastry: flour & water dough filled with sweetened shredded coconut & fried Flapjack Biscuits - Custard cream / rich tea Crisps Chocolate bar - unspecified	High intake of high fat and sugar western snacks
	Types of **fats** used	Sunflower oil Olive oil based spread	Change to vegetable oil and especially olive oil instead of ghee or butter.
	Seasonings and spices	Garam marsala Tumeric Chilli powder Coriander Cumin Garlic Salt	Use of prepared spices rather than freshly grinding

Table 6.12 Details of food choices – second generation women

As noted, the results of this multiple pass dietary recall will be used in the discussion to validate and illuminate the responses from the community and key informant interviews presented in chapters six and seven.

6.3 Physical Activity Environment

A number of factors emerged that influence ability to do, or motivation for physical activity, for example: availability of appropriate facilities, perceived lack of time or importance and habits. Responses varied from the impact of the physical environment and its effect on the amount of incidental activity undertaken both past and present, to the availability of facilities for the community to engage in planned activity.

The next two sections highlight the individual physical activity undertaken by participants, as well as sedentary activities, which form part of day to day life before moving on to discuss specific beliefs held around exercise and the perceived barriers to physical activity.

Specific research questions being addressed:

- What are the potential effects of educational levels, social class, access to housing and employment status?
- What are the attitudes and beliefs in the Bangladeshi community towards physical activity?
- What are the potential environmental influences on physical activity?
- What are the barriers to accessing physical activity options?

6.3.1 Individual physical activity

Individual physical activity included occupational activity associated with employment, recreational activity and domestic activity. There was also a degree of learned activity which had a historical context. For the majority of the participants activity tended to be incidental rather than planned with a few exceptions and as such walking was the most common. Also, overall the men, both first and second generation tended to be more active than the women and were more likely to participate in planned activities such as badminton, swimming or going to the gym but with quite low frequency. There were exceptions, especially for the first generation women who attended community centres which provide weekly activities.

Going to and from work, and also I have to travel from one place to another for work and I walk wherever I need to go. I sometimes use [transport] but mainly I walk. (PII OM 01 SA; first generation male)

Every Friday I play badminton 6-8 or 6-9 o'clock. I take a block booking, we have done that for the last seven or eight years every Friday I have gone. I am active; I am good like that I can get around a lot. I walk everywhere. I go to exercise two days, and I go swimming one day. That's three days. (PII OW 02 RB; first generation female)

I joined Jagonari in 1998, and since then I've been more active, we do Tai Chi classes and yoga and swimming. (PI OW P3; first generation female).

I mean nowadays at least I'm doing more physical activity as in walking, jogging, or you know, weights or whatever I can do. (PII YM 02 ZK; second generation male)

Jogging, gym, sports like football and basketball. I play these sports, badminton once a week for 16 years. Once a week it's fixed, we have a block booking. Sometimes twice a week. I try to go to the gym as often as I can. I have a treadmill at home which I use for 10 or 15 minutes whenever I get time. (PII YM 04 MS; second generation male)

I'm not bothered! I'm not bothered to do exercise. I've got enough exercise just walking about and stuff. (PII YW 01 RB; second generation female)

I go to the gym twice a week. I use the gym, I use the sauna. Apart from that nothing else! But I do walk to work every time. (PII YW 04 SB; second generation female)

6.3.2 Sedentary activities

The majority of participants, despite often perceiving they lacked the time to increase their level of physical activity, did spend a significant amount of time participating in passive entertainment options. For many, sedentary activity was associated with lifestyle factors such as office based employment or family care responsibilities. It was the second generation women who were most likely to spend large amounts of time watching television although there were some large variations, or using public transport or driving rather than walking thus limiting both planned and incidental physical activity.

A lot! In the evenings it is on all the time, and now we have quite of lot of Bangladeshi channels and they show things about what is happening in Bangladesh. (PII OM 02 AH; first generation male)

I don't really watch television, I'll watch a bit in the evenings or in the morning, but its not regular. (PI OW S; first generation female)

I'm a driving instructor so I'm sat all the time. (PII YM 04 MS; second generation male)

Sometimes I watch the news and stuff, like in a day probably about four hours. (PII YW 01 RB; second generation female)

I don't know – walking, I don't do much I use the bus, train or the car. (PII YW 04 SB; second generation female).

6.3.3 Beliefs around exercise

There were a wide range of factors including those related psychological, physiological, socio-cultural and acculturation which impacted on individuals beliefs around exercise including

personal reasons for participating, or not, in activity exercise; understanding of what constitutes physical activity and perceived importance. The positive impact on physical, mental and for some spiritual well-being was noted by the majority of the participants, even those who didn't necessarily participate in regular physical activity.

While walking was noted to be of benefit to health, for some there was a disconnection with participating in activity solely for health purposes. Walking to get from point A to point B for example was seen as having a purpose where as non-incidental activity was done "for the sake of it". This impression of planned activity not having a purpose as such is seen in many communities where physical labour has been an integral part of their lifestyle, such as those living in rural areas versus those living in urban environments where activity needs to be planned due to their more sedentary lifestyle.

I think it is both about physical and psychological health for me. if I miss it one week then I feel very bad through the whole of the next week. Even though its just from 6-8 or 6-9, those two or three hours I feel are a great stress relief for me. After working all week it helps to reduce the stress and physically it makes me feel good too. It is an important part of my life. Also, a lot of my friends play and so it is good for us to meet. (PII OM 03 HRK; first generation male)

Asian mothers around here aren't working, everyone is at home, not everyone understands English, they can't talk the language, they can't go out and work and automatically they will be prone to illness. If you are active and going out and about you can keep illness away. (PII OW 04 MB; first generation female).

It is very good for you, even just walking. I walk a lot; I walk just for the sake of walking. I am only this healthy because of all of the walking I do. (PII OW 05 RB2; first generation female)

Exercise is stop using public transport and try and walk now and then, that's the least favour you can do to your body. Walk more… Very important, very important. Because you need a healthy heart, you've got a healthy brain now, now keep a healthy heart. I man you know you need to be spiritually and physically active. Some people are physically very active. (PII YM 02 ZK; second generation male).

I think it's really important. I've noticed a change in myself as well, before I used to feel tired quite quickly, I used to get tired quite quickly if I wasn't doing anything, but nowadays due to regular exercise I feel as though I'm more motivated and I have more energy in me to be able to do more activities. Like I wouldn't last throughout the day if I was doing something kind of strenuous. I think exercise has made a change, some sort of change to my lifestyle. (PII YW 05 YC; second generation female)

Another interesting point was that, unlike food, one of the second generation female participants felt that they would be more likely to change exercise habits as they are very conscious of their lack of physical activity and the fact that they do have such a sedentary lifestyle.

I reckon, with exercising I think I'm probably more likely to make a change than the food just because I don't know – you're meant to innit? I really do know the fact that I don't walk anywhere and I don't do anything and because of that it does play in my head the fact where you've got I drive everywhere and because where I'm not walking anywhere if I was to walk to work or something like that, then I don't think I'd, it would play on my mind that much. But the fact that I don't, I kind of know I need to make up for it, because I don't do anything. (PI YW P1; second generation female).

6.3.4 Perceived barriers

A wide range of factors were identified as barriers to participating in both incidental and planned physical activity, with the major themes identified relating to perceived lack of time; affordability; cultural and religious constraints; perceived danger in the environment; and physical access to facilities.

Not all people are the same. Some won't be able to afford it, some won't go because of purdah[61], some will say they aren't well enough to exercise; it will be one thing or another. There can be any type of situation. They should be made available in all places to suit all people. Some people won't feel comfortable going to a gym so they should have the option of going to a centre. (PII OW 04 MB; first generation female)

We come from Bangladesh where most people are naturally engaged in exercise or physical activity. If you don't work, you starve. In areas without good transport links, you must walk distances. (PI OM P1; First generation male)

Perceived lack of time was a common theme for the majority of participants often as a result of employment or, especially for the women, looking after family members including children.

With me, it's time, nothing else. If I had the time, then I would go. (PII OM 04 MA; first generation male; full-time employment)

Access to leisure and sports facilities was highlighted with respect to distance; number of appropriate sessions available such as women's only classes and even the lack of facilities such as gardens which for the first generation were seen as a good source of exercise in the past when they lived in Sylhet. Interestingly, regarding the distance to get to exercise facilities the walk was not considered a positive aspect with the physical activity at the leisure centre versus the walking being compartmentalised into two separate issues.

It would be so good if they were closer. Whitechapel is so far, it takes half an hour to get there. The people there say, 'you get your exercise just walking here!'. But we have no choice, there isn't anything available closer. (PII 0W 05 RB2; first generation female)

[61] Purdah: (the condition of following) the custom, found in some Muslim and Hindu cultures, of women not allowing their faces to be seen by men they are not related to, either by staying in a special part of the house or by wearing a covering over their faces

[T]he Whitechapel sports centre has a women only day which is only just for one evening – Monday evening and its hugely popular. It gets so packed you have to go early if you want to get in for particular activities. (PII YW 03 SS; second generation female).

Here we don't have that opportunity. And working in gardens, growing our own food that provides you with a lot of exercise, here we don't have that opportunity. (PI OM P3; first generation male)

Affordability was noted by quite a few of the participants, especially with respect to commercial gyms. One of the women noted that they would benefit from more women's only gyms being available as many women, Muslim or not, prefer not to go to mixed establishments but unfortunately these commercial gyms are also usually very expensive and it likely the reason they are not opening in places like Tower Hamlets.

Yeah I think they tend to be quite expensive, especially in Tower Hamlets because obviously a lot of people are actually on social benefits so its quite hard for them to be going and having access to the gym, so I think, yeah prices definitely need to come down a bit. (PII YW 05 YC; second generation female)

The availability, or not, of culturally appropriate facilities for the community to engage in planned activity was noted by the majority of participants although it was the men that were most vocal about the issue. In one instance during the group interviews, one of the first generation men felt that the lack of appropriate facilities was not actually the fault of the council but rather the burden was their own as was a result of their own religious requirements.

Where I go swimming, they have facility just for men. I think this is a good facility. Men and women mixing…I don't think that is…a good thing. The facility that they have for us, just for men, we are able to be open. That's a good thing. If there is such a facility everywhere, then I think that would be good. If like me there is someone who feels that way then he would feel free to go swimming or do other exercise. I think our people would go more often. There are many brothers who follow their religion, practising, they are very shy about mixing with women. If they found such a facility I think there would be an eagerness for them to go. (PII OM 05 FA; first generation male)

I go swimming sometimes at a centre where there are other people from our community and where we can observe Islamic dress code. (PI OM P1; first generation male)

Yes, I have been in the past but then you see there half naked men and women in the same pool. How can we go swimming? (PI OM P2; first generation male).

You cannot blame [the authorities]. The facilities they have are for everyone. It's just that our religion does not allow that kind of mixing. (PI OM P3; first generation male)

I prefer to be in a place where there's just men. I don't want to be doing exercise in a mixed environment. … I wouldn't go to a mixed gym. I think that's very important… …I have to find a place where there's an all-male environment. (PII YM 05 AH; second generation male)

Perceived danger in environment was discussed by only a couple of the participants but from differing perspectives. One of the first generation male participants was very frank about his concerns for the younger generation with respect to issues such as hanging about the streets, eating chicken, smoking dope or getting deeply involved in their faith, in a negative way, as being a consequence of the lack of facilities available to the children such as playing areas and planned activities.

[At least] if the [local authority] made some arrangement for [amusement], where we are here at the Brady Centre, before all around this building children could play, there were at least five areas – on that side there was the __ field, and this large room used to be like a gym, kids could come and do what they wanted. Upstairs there was things for them to do, they could play pool, carom, whatever, many things. Even just playing pool they can make friends. But now there just seem two choices open to our children – either you go deep into your faith or you hang around on the streets. (PII OM 02 AH; first generation male)

Another, this time second generation male, noted the negative impact of the environment itself believing that in Bangladesh women were able to exercise more freely when in their Sylheti village in Bangladesh versus the UK as they can walk more openly without having to be concerned about prying eyes; there is a greater feeling of safety.

Down there you don't have that so they can be more open and the women as well they know that they're in their own village and there won't be someone else who will be staring at them or you know, they know that they can walk out of the house with safety. And that's one thing; I know that I leads to women as well being more active, that they can get out freely. (PII YM 02 ZK; second generation male)

Finally, lack of time was regularly cited as a barrier to physical activity and in particular due to work commitments, child care and being a carer for a family member was noted to be the main barriers.

With me, it's time, nothing else. If I had the time, then I would go. (PII OM 04 MA; first generation male).

And also my husband's health is not good and there is everything to do in the house, I couldn't do anymore. They did say something about going to the gym if I wanted to, but I don't have the time. (PII OW 02 RB; first generation female)

We went Monday evenings I started going, but then – what happened? It was Ramadan and then there was a break, and then we've not gone back again. I do have it in the back of my

head to actually go there, but then it's just getting the time! (PI YW P1; second generation female).

6.3.5 Summary of the physical activity environment

Overall the male members of the community were more likely to be more physically active although some of the first generation women noted attending session at local community centres. The second generation women were most likely to only participate in incidental activity, being 'not bothered'. They also were more likely to report watching television for a number of hours each day and to choose public transport over walking even for relatively short distances. For the majority of the participants, including the second generation women, physical activity was considered to have a positive impact on physical, psychological and spiritual well being, with walking in particular seen as being very beneficial. Walking for the 'sake of it' was even considered important amongst the first generation where historically it was a necessary part of daily life in that you walked as part of work without which you would starve unlike life in the UK where pubic transport was readily available. The first generation men also reflected on the importance of increasing physical activity amongst the first generation women who where often quite isolated, spending much time within the home with a resulting increase in illness.

Even though the second generation women were for the most part quite sedentary it was noted that a positive change in this behaviour was more likely than for food as they were conscious of the fact that their lifestyle was very sedentary.

The perceived barriers were wide although the need for purdah was considered essential for all, consequently there was concern at the lack of culturally appropriate facilities and when they were available, the infrequency in which this was provided. The men were most likely to highlight the need for modesty and the issues that arise as a result, although it was also noted that the lack of facilities were not the fault of the council but rather due to their own religious and cultural restrictions. Lack of time was also a considerable barrier, with employment being noted to have the biggest influence but for the second generation women especially who also continue to have the main responsibility of raising their family despite changing lifestyles. Access was an issue for some with respect to the distance travelled although, even when in walking distance complaints were made that facilities were too far away rather than considering this as a component of increasing physical activity; the type of physical activity was compartmentalised into incidental and planned. Lack of access to gardens was also highlighted as a barrier; especially for the first generation were gardening had in Sylhet been a major contributor to daily physical activity. Lack of affordability was an issue with respect to the use of gyms especially considering the large number of people who are on benefits in the community. Finally, perceived danger was mentioned by a few of the participants. On the one hand due to the number of young men hanging about the streets as they having nothing else to do, but on the other, concern for the women who are unable to walk around the community without 'prying eyes' unlike they are able to do in their villages in Sylhet.

Figure 6.5 provides a summary of the collective beliefs around exercise and the barriers which impact on physical activity as reported by the Bangladeshi community participants in Tower Hamlets.

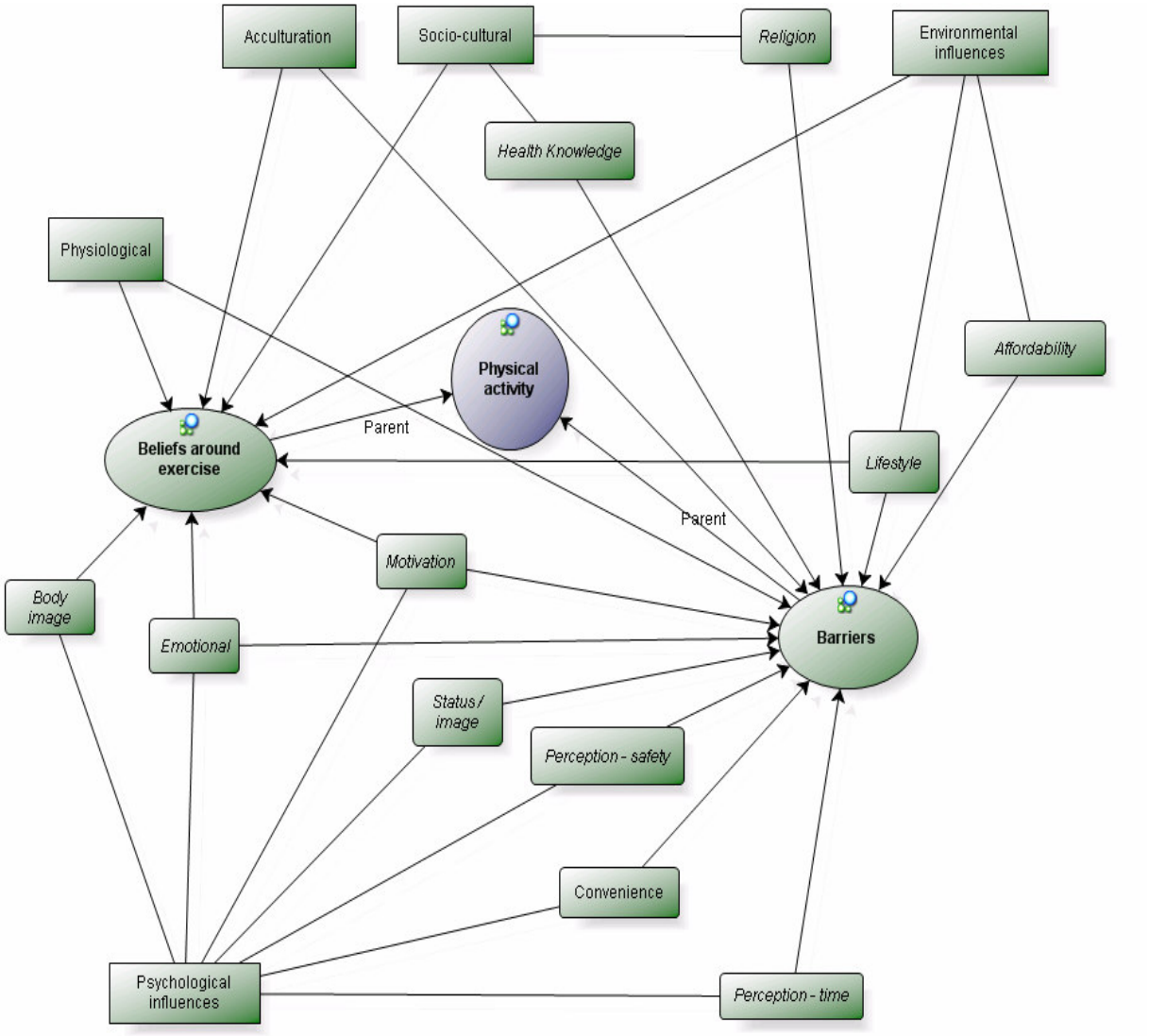


Figure 6.5 The physical activity environment

6.4 Respondent Recommendations

At the end of each of the interviews the participants were asked for their suggestions to improve ability of their community to make healthy food choices and increase physical activity, specifically in areas they themselves identified as being of importance. Their opinion was also sought with respect to current and potential policies, such as planning policy; regulation of advertising; fat taxes and front-of-package labelling, aimed at reducing the incidence nutrition related non-communicable diseases including overweight and obesity, and Type 2 diabetes. The suggestions made by the participants predominantly related to the need to educate the community to improve their health knowledge as above all other influences on food choice with respect to health, it is this perceived lack of education in relation to food and health that is

considered most significant. Interestingly, as noted in chapter 2, section 2.3, traditionally it has been considered that the Bangladeshis understand that there is an intricate link between food and health, in fact being one of the issues with western medicine in that it is not considered to address this appropriately, but now, the community appears to be losing this knowledge or is at least perceived to be.

Specific research questions answered in this section:

- What is the role of the State versus personal responsibility?
- Do contemporary theoretical public health frameworks reflect current practice?

6.4.1 Method and location of education delivery

A variety of methods were suggested to deliver health information however there was a widespread view amongst participants which emphasised the requirement for active engagement and using more dynamic and innovative strategies targeted at different groups within the community, versus simply providing information such as leaflets which many people either ignored or weren't able to access due to language and/or literacy barriers.

A good analogy was given by one of the second generation male participants, AN, with respect to the need to tailor information to individual needs with factors such as sociocultural dynamics, and language and literacy barriers needing to be taken into account just as we would take into account the requirements of somebody with learning difficulties for example.

I think the elder generation, obviously, because they don't know how to relate to you…well, due to the culture and differences…here and Bangladesh. I think it's hard to get through to them. It's not that they don't understand or they don't appreciate the need to change the way they do things, but the evidence out there or the way we produce information, the way we publicise things, I know are generally targeted for…you know…it's not just the Bengali elder generation, obviously, like learning difficulties and things. We don't just give them a book and say, "read it". We take extra steps to make it, like, a difference. You know, a person who has learning disabilities understands a book in a different way. Likewise, a person who doesn't read or write English and a person who does understand, understand the same message that you and I do from reading a leaflet. We should take that extra step to, like, you know, try and see what we can do differently. (PII YM 01 AN; second generation male)

For the older generations the best methods for delivering information were considered to be those involving meeting people where they gather and socialise such as the mosque and community centres. Personalised communication such as group discussions in these forums was seen to be a particularly effective method, the women's groups at community centres being frequently cited as a good example, as well as the jumma sermon (Friday prayers).

It can be given out because now there are two channels now: Bangla TV and S Channel. Many people watch these now. Before, there wasn't such a facility. If there was an advertising

campaign [by the government] on these I think people would listen. There is another facility: it seems mostly it's the older people who have the problem of diabetes, for them…they are the ones who mostly go to the mosques and local community centres. In these places, if there could be posters, I there was a type of session for them to have talks about their diets, I think that would be even better. An expert should sit and talk with them. Like say after prayers in the mosques, for 15 minutes or 10 minutes, if there was a session to talk about diets, then I think they would go away having had a face-to-face understanding about it. (PII OM 05 FA; first generation male)

The centre would be good, you are there with other people you can all hear other people's experiences and share your own. (PII OW 03 RS; first generation female)

Only if the leaflets told people where they could go to get information. If they could go somewhere then that would be good. In the women's centre they ran nutrition classes for a while – a lot of women went to them, I used to go to. A lot of people learnt so much from those classes, and I did too. I learnt how much oil to use, the type of oil, how to heat the oil. I learnt a lot of things. Something like that would be useful. (PII OW 05 RB2; first generation female).

Targeted messages through media such as Bangla TV and Channel S and the Islam channel, as well as local Bangladeshi radio and newspapers were also seen as a good avenue. This type of media where the language of the community, Bengali, is used is popular particularly for the first generation. Those members of the community however that are Sylheti speaking only, often the first generation women, would not benefit from this approach.

I don't think anyone reads leaflets or flyers. They don't really [attract] people. I think the best way would be to use [own language TV channels]. They could put something on there, that would be the [best way]. Or [community newspaper- East End Life] that goes to everyone's home, something could be put in there. But leaflets, [it's not worth it] – especially for our community – they might work for other communities, but not for our Bengali community. (PII OM 03 HRK; first generation male).

It would be good, if people were able to understand – there are lots of Bengali women who don't fully understand Bengali [Bangla TV doesn't broadcast in Sylheti]. It would be better to get everyone together in a centre and explain things. (PII OW 04 MB; first generation female).

Yeah I would definitely say stuff like visual audio stuff are more effective for the Bangladeshi community rather than literature etc. so if you have videos of someone actually coming in and talking to you personally, promoting healthy eating, I think that's more effective. (PII YW 05 YC; second generation female).

The second generation participants concurred with the recommendations made by the fist generation with respect to their needs. For the second generation participants themselves and other young members of the community there was the same emphasis on the delivery style for

information, noting that we need to be more innovative in the ways that messages are delivered for it to make any impact. Strategies suggested included the potential for social marketing using the methods of advertising by companies such as McDonalds, for the promotion of healthy food choices to combat the current density of advertising, and availability, of high fat / sugar foods, noting that current government promotion strategies were far less effective.

"Yeah I think we do especially like TV advertisements, you see, or maybe if you go on the streets, if you look at billboards all you can see is McDonalds and Burger King and KFC. You don't see anything about five-a-day." (PI YM P1; Second generation male)

I know they're advertising but I think the companies that promote fast food are advertising better, that's all it is. Come on! A McDonald's advert usually gets you sort of…mouth-watering, you know. I know they do a lot of adverts on smoking and they take this big step of showing you know, really ugly pictures and…yeah, the government can do a lot more of that targeted at teenagers. Drugs… I know they're taking extra steps to show them the really bad side of drugs. Should have done it before, I guess. Food-wise, healthy living-wise, they can do a lot more …like they did for you know, smoking. I know people are cutting down smoking and the majority of the reason is 'cos of the way the NHS is advertising it now. Something they should have done much earlier. (PII OM 01 AN; second generation male).

Interactive methods were also suggested to enable people to 'explore' new foods and change cooking habits such as cooking sessions; supermarket tours; and food recognition exercises.
I think it should be more approached by people giving lessons about nutrition and diet. Exploring, having activity day out, exploring fruits, vegetables. Knowing what it does for you. I think that will attract it more. And knowing that what is bad for you and how it affects you. I think it should be more active that just telling. If you are just telling, they hear it all the time, even on TV. I think people should open more centres and gyms should free! [laughs] to use! More activities. (PII YW 04 SB; second generation female)

Together with the mosques and community centres, school based interventions were also suggested by the respondents as well as linking in with local fitness centres to provide information.

Mostly sports centres would be better…where you have a coffee bar in there. Some place where you can sit and relax as well. That would encourage people to go more. … If you get a representative to explain about exercise, some sort of regular classes I'm sure older people would go. Most old people have some sort of problems, some sort of illness. If say, at the Whitechapel Sports Centre they had a doctor coming once a week to explain about these things I'm sure some people would attend. (PII YM 04 AS; second generation male)

6.4.2 *Information delivery*

The most appropriate person to deliver diet, health and lifestyle information was suggested to health care professionals, including General Practitioners and dietitians as they were respected within the community and often held in high esteem as well as being considered the experts in the field. For General Practitioners in particular however it was frequently noted that they lacked the time to do this adequately, and furthermore for others with respect to dietary information in particular they were considered inappropriate as they lacked the knowledge in this area. The influence of the Imam was also noted to be extremely strong and more likely to elicit change than a doctor; this being linked to the advice being part of their spirituality and the way the Prophet led his life rather than the 'biological' notion from the western interpretation of health. As with the GP's though, some participants didn't feel that the Imams had the knowledge to be delivering this education and that it should be left to the experts in the field.

I think it would be very good coming from the doctor. People have a lot of respect for doctors and would pay a lot of attention to what they say. (PII OM 01 SA; first generation male).

If there was someone in the community who knew about food, like a [dietitian] who could speak and explain things in the community language then that would be so useful because they could just sit and chat and explain things to everyone (PII OM 01 SA; first generation male).

Any way, it doesn't matter who gives the information as long as they are qualified. I can't say who should or who shouldn't, I don't know that. The point is it should be someone who can explain the information and who has the right knowledge. (PII OW 04 MB; first generation female).

Obviously you go to a doctor and you try and listen to that advice but you know that the advice the doctor gives is good for you but you kind of think, "okay, well, I don't have to take it". I guess… the imam of the mosque, generally, can't probably play a better role than…they're playing a good role anyway, they're doing a lot nowadays… And you know…things like eating crap…I'm sure that's against the advise of our Prophet but obviously the message comes from an Imam will have a difference than a doctor coming and saying, "Oh, don't eat this because biologically it's not good for you and everything". So yeah, I do think, yeah…mosques and imams and religious leaders and…even politicians, you know – even politicians out there, I think they can do a lot more to promote healthy living. (PII YM 01 AN; second generation male).

Health professionals. Those who have the qualification for food, know the issue, enough knowledge of the issue. They are the best people to give out the information… …If for example my mum… if the person is educated about health, then she'll be more safer with the advice she's actually given, so yes. (PII YM 05 AH; second generation male).

A further dimension to who is the best person to deliver information is that of gender, with the majority of participants agreeing that it is culturally preferable for men to deliver the information

to men and women to women, and of using trained translators versus family members so that the communication is correct but also more culturally appropriate than say a son translating for his mother.

But for women it needs to be a woman giving information… And for culture it's preferable for a female worker. (PI OM P1; first generation male)

A translator that is dedicated to the job. That is good. I've seen translators that are not good – I am better than them. But translators that are good. Obviously that's a big task. (PII YM 02 ZK; second generation male)

6.4.3 Specific groups within the community to be targeted

The participants were asked if they believed that there were any particular groups within the community that needed to be targeted for the education and lifestyle interventions strategies. It was noted by many that everybody required information and education, however when specific groups to be targeted were noted there were conflicting views between both the generations and the genders.

From what I can see I think that everyone is equal. As far as I know there isn't anyone or anyone group who completely don't know anything. I don't think so. (PII OW 02 RB; first generation female)

Yes we need clear idea about what is healthy for everyone. (PII YM 03 MSS; second generation male)

I think it's important to educate people about food and how to eat…I mean, how much to eat. And the effects of eating too much food. People need to know. Because a lot of people are like, headless, they don't really know the effects and especially in our community, the Bengali [sic] community…so it's very important for them to be educated about food – what they eat and how much they eat. (PII YM 05 AH; second generation male)

The first generation participants often suggested it was the youth who particularly lacked knowledge although on the other hand, at times it was their children who provided them with information and assistance, especially if they had been educated. This was not the case for all families however as some have children that lack understanding themselves and simply 'hang around' on the streets. The first generation men also specified the need of the first generation women and newly arrived migrants as a result of their isolation and often poor literacy, together with young women as they would be raising the next generation, and restaurant workers who they felt had particularly bad health. The first generation women also felt that they were the ones that required the education but for some from a different perspective, feeling that their role in the family was one of responsibility for both the food preparation and education of their families, unlike the men who have little influence in these areas.

I am lucky, I have a good family, they help me, they explain things to me, what I should eat, what I should avoid. In many families, they don't have that, their children don't understand these things, they are just hanging around on the streets. Helping these people would be of such benefit to everyone wouldn't it? …Women are the ones who will learn – what can men know? What will men do with the information? They're not going to cook, are they? If women know about these things they will educate their children so their children will grow up knowing about these things and knowing what to eat. It will benefit the whole family. the mother is the real teacher. (PII OW 04 MB; first generation female)

I think those people that don't go out very much and so don't have the opportunity to learn. So that would be women I suppose. (PII OW 05 RB2; first generation female)

It is vital that girls learn, because they will be raising children and taking care of their diets. (PI OM P1; first generation male)

People who have recently arrived from Bangladesh, or those who just have never gone out much. If they had more information, or there were some kind of [advice sessions] for them that would be good. (PI OM P3; first generation male)

..and what you were saying about healthy eating, it needs to reach the people in our community who are in the restaurants. (PI OM P3; first generation male)

Some of the second generation participants felt that is was in fact the first generation, the 'elders', who required education, feeling that they were often ignorant and had poor eating habits and lifestyle behaviours although others felt it was the youth. Some of the second generation participants also felt that while the older members of the community required further education that this would be very challenging due to cultural barriers and long held traditions which would be difficult to change. Furthermore, while first generation women felt that they were the ones that exerted the greatest influence over their families' diet, some of the second generation felt conversely that it was instead the men, being the ones responsible for the purchasing of the food.

I think the younger generation because people seem to be reluctant and ignorant. Even if you know something you still think, 'It's not going to happen to me'. (PII YM 04 AS; second generation male)

I'd say teenagers – they need more advice on food and drink and what they eat and stuff. Because nowadays younger teenagers are becoming more obese, and they need to look at what they eat. (PII YW 01 RB; second generation female)

I think for the elderly generation they definitely- because they've grown up in a kind of traditional, yeah they're very traditional so they tend to just stick to what they have, so some don't even care whether they are eating healthy or not. So I think there needs to be more

awareness for them, but I'm not sure how you would go about doing that because they are quite difficult people to target…With Asian families its usually the men that tend to do the shopping, so I don't know how much of a decision women actually make when it comes to eating healthy or just food generally. So I think it's the men that we need to target really. (PII YW 05 YC; second generation female)

6.4.4 Policy

The majority of discussion around either current or potential public health and/or food policies related to the regulation of advertising, fat taxes, the food retail landscape and front of pack labelling as prompted by the interviewer. Further to specific policies there was also discussion around the responsibility of the government versus the individual. These will now be outlined in turn.

6.4.4.1 Regulation of advertising

There was a unanimous belief that there should be much tougher regulation for the advertising of 'unhealthy' food choices, especially to children, with participants agreeing that the current changes were necessary to reduce the perceived influence they have on children. This influence included brand recognition for fast-food specific outlets, and children pestering their parents, often successfully, for the promoted items.

It would be great if they stopped it. My young child – she's only sixteen but her teeth have gone black from eating sweets. It would be such a help if they stopped it. She's stopped eating rice, its all sweets and crisps for her, that's all she eats –she would eat it in her sleep if she could! I would be so happy if they stopped it. She just won't listen. (PII OW 01 SB; first generation female)

Kids already know that. You don't need to advertise that! You go to every corner them shops are available. I've got a daughter, she's about three-and-a-half, she even knows the 'M' sign. She sees them and she says she wants chips! … The government should [regulate]. (PII YM 04 AS; second generation male)

Yeah I think that will have some sort of effect because obviously during the weekends you can notice it when you switch on TV they are usually promoting sweets for children. And I have a little five year old brother and as soon as he sees that he's like 'I want that! I want that!' so I think it does make a difference because they notice it as well when you take them shopping with you. Children do tend to say, 'I've seen that on TV so I want that'. So I think that would be quite effective if they did restrict viewing times for those. (PII YW 05 YC; second generation female)

6.4.4.2 Fat taxes

While many of the participants admitted that increasing the price of unhealthy foods, such as those high in fat, sugar and/or salt, may result in reducing consumption there was for the most part a rejection of the potential policy. A 'fat tax' was seen to be negative and regressive in that it punishes people rather than providing options. Furthermore, regardless of the impingement on personal choice, many felt that a tax resulting in price increases would not be effective just as increasing the tax on cigarettes has not stopped people buying them but merely reduces that amount of disposable income people have remaining. The opinions expressed regarding the fat tax also reflected the ambivalence people have in their food choices, recognising on one hand that the food are unhealthy and contribute to the poor health seen within their community but on the other hand not wanting to limit peoples choice and freedom to consume the same foods.

Those who eat those foods they will carry on eating them! I don't think that would work. When a person gets an addiction it's not easy to lose. (PII OW 04 MB; first generation female)

No, I don't think a tax…increasing the tax is the way to go forward. I think that's just a greedy thing the government does. Erm …come on! There's more ways of getting people to see that things are bad for them and … give them more choice…Just taxing, I don't think so. That's kind of…erm…with your kids for example, if someone doesn't obey you … you ask them to go into [another] room. T think tax is kind of like that – kind of forcing them to do something and forcing to do some is no way the best. (PII YM 01 AN; second generation male)

I don't think so, no… …No, because a tax will just cause people to go against [it] because that will mean just paying more money. And no one wants to pay more money. Obviously, people might stop buying, but then they'll not be happy. That will cause a problem. (PII YM 05 AH; first generation male)

It might be a good idea but most people would be just ignore it. They just don't care; because tobacco is bad for you but they still have it, so it depends on the individual…They would still buy it - 'cos I would! (PII YW 02 AB; second generation female)

No way! Because sometimes you would prefer to have that and it's so expensive you would think, 'oh my god!' (PII YW 04 SB; second generation female)

6.4.4.3 Food retail landscape

As with the regulation of advertising to children, there was widespread agreement for the need to regulate the food retail landscape to enable the number of high fat take-away outlets to be restricted with the overwhelming recognition that the number currently present within Tower Hamlets was excessive and that the number of alternatives extremely limited. Even amongst

those that ate frequently in outlets such as PFC there was a belief that there should be less of them and more 'healthy' options available.

The opinions were not unanimous however with some ambivalence amongst a few interviewees, feeling that people should have their choices restricted with respect to the types of foods available whilst at the same time recognising that the large number of outlets contributes to the poor diets of many within the community, especially the youth. Alternatives to restricting the number of outlets were suggested such as educating people so that they are aware of the effects of their own choices, or having health warning at front of counter. At present real choice is limited by both a lack of knowledge and the lack of access to healthy options, which like the fast-food outlets are quick and reasonably priced.

They should reduce these because that's where all the children go. They like the taste of these foods, but the food isn't good and they are getting so big now. (PII OW 05 RB2; first generation female)

Reducing them will help people, stop peopling reaching out to them [sic] whenever they want to. It's important to reduce some of these kebab shops [sic], there's so many of them. Give people less choices. (PII YM 05 AH; first generation male)

And I think there should be some sort of rule __ within a certain distance from schools. (PII YW 03 SS; second generation female)

I think definitely we need to reduce a few more of those and get more healthier restaurants in. So, because we do actually have a lack of restaurants in Tower Hamlets, we have more junk food type premises and less restaurants etc. (PII YW 05 YC; second generation women)

Some people felt that even if it may be a good idea that it wouldn't happen as they are a viable business and making money is the main consideration, not people health; they have no power to influence such decisions.

These are peoples' businesses and livelihoods. They won't reduce them. Even if I want them to go they will stay – what can one person do? (PII OW 04 MB; first generation female)

It won't happen would it? Come on, people are here to make money, its, money matters these days. I mean it's up to every single individual person to realise what's good for them, this is a test for them. (PII YM 02 ZK; second generation male)

6.4.4.4 Front-of-pack labelling

For those that used food labels, mostly the second generation females, they felt that the new front-of-package signpost labelling was a good development and aided in food choices or at

least was likely to make people consider their options even if not always influencing the final decision.

I've seen these in supermarkets and I think they're really effective actually. Its much better than what we had before, they usually used to have small print before whereas they've actually made it more visible now, and think that helps as well because those are the type of stuff I would look for. (PII YW 05 YC; second generation female)

6.4.4.5 Government responsibility versus personal responsibility

When specifically asked whether it was the governments' responsibility or the individuals with respect to healthy food choices it was unanimous that there was joint responsibility with the government providing support but the ultimate decisions being personal choice.

I think that the government needs to think about the amount of children eating junk food. They need to recognise the harm it is doing to children – some children are addicted to it. They can't cope without it. (PII OM 01 SA; first generation male)

Both parties have a role. The government can't do it all, people have to do some things but they might need the support of the government. (PII OM 01 SA; first generation male)

The government must do it, and individuals must do it as well. With anything, the government on its own can't do it, individuals on their own can't do. Everything has to get together and work together. The individual needs to be made conscious, that they have to look after themselves, how to stay healthy, and the government has to look at how to give the information to the people, how to take action over the fast food shops, that kind of thing. (PII OM 05 FA; first generation male)

People can only do as much as we can, but if you can't help yourself the government should. The government has a responsibility but so do individuals. The government doesn't come into your homes to see what people are eating. Everyone has to take responsibility for themselves. (PII OW 03 RS; first generation female)

There should be more warning signs the way they have with cigarettes. If you go to McDonalds and if you have a big display sign saying 'this is the side effect' … that kind of thing. At an early stage when kids are young if you teach them at school, that's very effective. (PII YM 04 AS; second generation male)

With respect to the government however there were a number of very negative attitudes expressed, especially by the first generation men, including mistrust, participants feeling that even where the government should and was able to intervene that they don't because it's not on their agenda and they're apathetic towards the community. There was also a feeling that the

government works in silos with one arm not working with the other in their development of policies.

With the [system] of this country the government should be doing more. The same government that says that people are not eating healthy or living healthy are handing out benefits to people. Being on benefits and eating unhealthily are not unrelated. But the [system] is like, there is one minister for benefits, one for spending, they are quarrelling amongst themselves. What do they care about us? (PII OM 02 MA; first generation male)

Of course the government can! They are the lawmakers. If today, a law was passed that banned all junk food, can the junk food retailers do anything? If you break the law, there are severe penalties: costs, time in jail…the law is the law. Junk food needs to be replaced. Definitely, 100 per cent. People would agree, 100 per cent of the people would agree that junk food is bad, creates obesity and decreases nutrition… That would be great if it could be done but I doubt it. The world isn't that easy! I don't think the government would care for this. A government thinks in its own way. A government comes in for five, 10 years. They will do their projects, implement them, doesn't matter who is dying from alcohol, junk food, opening bars for 24 hours, they don't care. That's the convention. (PII OM 04 MA; first generation male)

6.5 Summary

The Bangladeshi people interviewed in this study were reflective of community as a whole, being mostly part-time/self-employed or unemployed, having poor educational attainment and a significant number being on benefits. Those who were breaking this mould were also reflected in the interviews.

The data revealed broadly enclose the trends that have been previously identified in work with migrant populations as well as that relating to the wider determinants of health. Motivations behind the food and physical activity choices made were found to be varied and complex with significant differences being seen between the first and second generations as well as between genders. More specifically, key themes emerging from this reported study data include: dietary knowledge and health consciousness; importance of religion and quality; changing family structure & cooking practices; health beliefs and knowledge; literacy and language barriers; perceived barriers and influences on physical activity; and the impact of the food chain and food outlets.

In essence the responses from the community participants in this study indicate that, whilst there is maintenance of traditional food culture within both the first and second generations, there has been erosion to various degrees due to the impact of both urbanisation and acculturation.

The value of this data will become more apparent during the discussion of the implications of the findings in chapter eight of this thesis when there will be a synthesis of the community

interviews with the data from the multiple pass recall and the key informant interviews. The data will be used to address the principle research aims and questions relating to the psychological, socio-cultural, economic and environmental factors influencing food choices and physical activity within the Bangladeshi community in Tower Hamlets, and the implications for public health and food policy.

This chapter has identified and described the factors influencing food choices and the nutrition transition from the point of view of the community members. The following chapter considers the perspectives of the key informants; the Bangladeshi people working within their community, health care professionals, and the public health and policy makers who form the multi-level governance of public health.

Chapter 7 Research findings: Phase II Key Informant Interviews

In the previous chapter I examined the contextual factors contributing to the food choices and physical activity as perceived by the community respondents themselves. The purpose of this chapter is to broaden on and explore the same issues but from the perspective of Bangladeshi's working with their community, health care professionals' and those involved in public health and food policy. This chapter presents the findings from the semi-structures interviews with the key informants from phase II of the research. As with the community interviews, the data to be presented is of qualitative nature, and has been obtained from twenty key informants with representatives from local, regional and national levels involved either working directly with members of the Bangladeshi community or indirectly in food policy and / or public health as described in chapter 5, section 5.7.1. Also, as noted in section 5.7.2, half of the key informants are of Bangladeshi origin and as such were able to bring the knowledge based on both their professional role as well as that from an 'insiders' perspective.

The chapter structure is a reflection of the three key research aims detailed in chapter 1, section 1.2:

1. To investigate psychological, socio-cultural, economic and environmental factors influencing food choices and physical activity;
2. To investigate the trend in eating and physical activity patterns between two generations of British Bangladeshis, specifically with relevance to the development (and contribution to the prevention) of Type 2 diabetes.
3. Consider the potential effect of educational levels, social class, access to housing and employment status, as well as the broader policy context;

As there were wide differences in the professional roles of the key informants however the focus of the research questions, as detailed in section 5.6, to meet these aims differs for each group of respondents. Appendix 10 has copies of the topic guides. Those of Bangladeshi origin and/or who worked closely in the area of nutrition for example were able to provide greater detail and context in relation to specific food choices, as with the community participants themselves. While those whose responsibilities lie more in food policy and / or public health were able to illuminate the broader policy context, provide insight into professional practice and identifying the gaps between public health policy theory, government policy and practice, for the prevention of obesity and diabetes.

The data presented will be descriptive accompanied by illustrative quotes to capture the essence of the theme. Where necessary a signpost will be provided to which group of key informants the particular theme is most relevant to or for whom the topic was not discussed during interview. For all participants, where illustrative quotes are provided a descriptor of their position will be provided to guide the reader. Where relevant their country of origin shall also be noted. Again, as with the community participant interviews it should be noted that for many of the themes there is cross-over between them, and are therefore not mutually exclusive, however they have been separated for clarity with the discussion taking place in chapter nine.

Further analysis was also conducted on the interview data to review the significance, or not, of the NVivo coding density in relation to the number of sources and the total number of references per code. Examples will be given for the most common trends as well as for extremes of little or large amounts of coding and why this may have occurred. This is presented at the end of the methodology chapter, section 5.9.

7.0 Factors influencing food and activity choices

As for the community participants there are four broad theme clusters regarding the factors influencing food and activity choices: Sociocultural, psychological, physiological and environmental, stemming from the systemised review, but with the detail emerging from the interviews in relation to the specific interview questions. Table 6.1, in section 6.0 identifies each of these theme clusters together with a brief definition for each, and table 5.3; section 5.6 provided a summary of the research and interview questions. These theme clusters have been deliberately kept the same as for the community participants to enable comparison of similarities and differences in responses in chapter 8, the discussion of the findings, although not all of the theme clusters are repeated.

The results of the interviews with the key informants relating to each of these theme clusters will now be presented in turn.

7.0.1 Sociocultural

Socio-cultural influences on food and activity choices in this section are provided from the perspective of key informants who work directly within the community, with the majority being of Bangladeshi origin themselves. Those key informants involved in food policy and/or public health at regional and national levels felt less able to provide objective information on this theme.

The specific research questions being addressed in this section are:

- What food practices are currently occurring within the home with respect to cooking and meal time structure?
- What factors influence the nutrition transition between the 1st and 2nd generations, explicitly, the change from *Traditional* diets to *Western* style diets as characterised by increased intake of fat, sugar and processed foods?
- What factors contribute to the maintenance of *Traditional* food practices?
- What factors contribute in both groups to making healthy dietary and physical activity choices?
- Where is health knowledge gained?
- What are the professional connections with diabetes; personal experiences of diabetes and knowledge regarding diabetes?
- What are the barriers to accessing healthy food options?

- What are the implications for health care practice and preventions programmes of the cultural, religious and health beliefs of this community?

7.0.1.1 Being Bangladeshi

Opinions made regarding the influences that occur as a direct consequence of the Bangladeshi culture were in relation to family and meal time structure, and traditional food culture.

The family structure and role of the extended family in the maintenance of traditional dietary habits was compared to that of other Asian communities in the UK. It was noted that the Bangladeshi's have maintained more traditional habits and even for the relatively few that have moved out of family homes to live in flats of their own that cooking and meals are still continued to be shared with the family.

But again I have to say, even the new generation, if they are living with their extended family, so they are, they will do whatever older people are doing, you know. (PII KII 03 RY; Bangladeshi)

I know that, ah, Tower Hamlet, how the people living, they lives, they got their own flat, so they actually go there, to sleep there, right, but they come for lunch and dinner… Back with the family, so, maybe daughter-in-law comes and helps with the mother-in-law cook, eat, and then goes back to the flat. They got their own flat, but, the food time, they actually together. I know some, lots of families are doing _ like this. (PII KII 03 RY; Bangladeshi; community nutrition link worker)

I think it's still very … it's very, very traditional still. They still have girls getting married and going to the in-laws and things like that, it's very, very traditional still, a lot more in the Bangladeshi community than other Asian communities where it's, there a lot more modern. The Bangladeshi's have really stuck to tradition, in that way I think there is a viable route for them to carry on that cooking and … 'cause they're very, very traditional. (PII KII 04 LC; Indian; community interfaith coordinator)

The culture of sharing food with family and friends is seen as an integral part of social life and developing community bonds. The differences between traditions in Bangladesh and the UK were also discussed with respect to the variety and amount of food served in that in the UK there is a similar pattern but with far greater excess and overindulgence.

This is I think embedded in their, and the food is our entertainment, food is our social culture, you know you, if you come to my house I will obviously offer you food but it's not only one item or two item, if I invite you I would be filling the whole table, because more food I cook, more, ah, more appreciation I get, even if I invite my own family because I will be satisfied. (PII KII 07 JL; Bangladeshi; community project manager – food and health)

[Y]eah having food that's Bengali, it's the type of community that you bond, as an organisation we bond through food and as a community they bond through food, you know, sharing foods really important and it's a link back to you know, your identity, it's very important. (PII KII 12 SP; community project manager – food and health)

The influence of other cultures on the food choices of younger generations in the community was noted but also that they continued to be influenced also by their own food culture.

[T]hey're not always influenced by, even sort of the younger communities, by western, not always by western cultures, there's still a huge influence from their own culture on food choice. (PII KII 02 NM; national diabetes policy)

And finally, the willingness, or not, between the first and second generations to make changes to the traditional diet, or incorporate new food items into their daily menus was also considered.

The older generation are extremely passionate about traditional foods and not prepared to experiment with foods of other nationalities or regions. But the younger generation are more flexible, more open minded. Although they love their traditional foods because Asian food is really quite tasty as we can see by the amount of restaurants and people of different nationalities that choose to eat there. (PII KII Imam AAB; Bangladeshi)

The maintenance of family structure is seen to be quite unique to the Bangladeshi community in comparison to other Asian communities which is reflected in both their continuation of the extended family. The culture of sharing food was also seen as continuing to be integral to family and social relations however compared to Bangladesh there was far greater excess and over indulgence. The increased willingness to incorporate new food choices by the second generation were not considered to be as a consequence of western influences but rather their greater flexibility.

7.0.1.2 Religion

As anticipated, the impact of religion on food choices was noted with respect to halal and haram although one of the Imams also drew attention to the importance of hygiene in Islamic Law. The later would further impact on the choice of food venue with some of the Bangladeshi restaurants and take-aways being noted as having extremely poor hygiene. In relation to physical activity, it was felt that there were constraints placed on the women in the community due to religious constraints, constraints that could be becoming strengthened by the increasing fundamentalism seen in the second generation.

All of the key informants recognised the importance of religion in the day to day lives of the people within the Bangladeshi population, with religion being of paramount importance to the food choices made and being considered the ultimate decider.

I think their religious, um [short pause] constraints will be really important and I think that probably supersedes everything. (PII KII 01 DT; Public Health Dietitian)

Actually Bangladeshi people they don't buy meat or fish from supermarket, ah, local grocery shop, because of the halal things as well. (PII KII 03 RY; Bangladeshi; community nutrition link worker)

We are ever concerned about halal and haram. We avoid haram things, don't eat, don't use or accommodate because of our religion and our faith. Secondly, how do we recognise the halal? That which is halal there is no question about that, for example, vegetables is automatically [known to be] halal, fish is automatically [known to be halal]. As for meat, chicken and meat, or fowl, we have a halal monitoring group. We buy only from shops that have been certified by them. We know that they slaughter with their own hands or by machine, they go physically and slaughter by pronouncing "Allahu Akbar" Islamically as they are supposed to do. Those are the shops that we buy from and consume. (PII KII Imam AHK; Bangladeshi)

Together with the concept of halal and haram foods, cleanliness and hygiene together with the maintenance of health are considered to be very important in Islam. Accordingly it was noted by one of the Imams that the food served in Bangladeshi restaurants and in take-aways was of such dubious quality on a number of levels that ultimately they will be 'taken to task' by Allah.

They are so [dirty]! But I suppose for those who work there they have to eat there. What I don't understand is that they have to do all these courses, these [hygiene courses] for restaurants, but they don't [apply] them. They prepare foods in such a dirty way, and they feed this to people. Allah will take them to task – people are paying them for this. (PII KII female Imam LN; Bangladeshi)

Religion was also acknowledged to have a large impact on the type of physical activity undertaken, with religious constraints being a considerable barrier for many members of the community and particularly the women.

I suppose women … to be seen in a bathing costume to go swimming, um, you know, obviously it must be a huge barrier to use sports facilities where it's predominantly, usually white Caucasian people using it. (PII KII 02 NM; national diabetes policy)

There is, there is cultural problem but I think a lot of, lot of sports centre now there'll be women's only groups, gyms, swimming pool, definitely separate, things like that. (PII KII 05 TA; Bangladeshi; GP)

Some of the younger women that I see, when I talking about exercise, I've come to realise that they won't get on the bike and go down on the street on a bike and so clearly you have to know what's going to be acceptable to the population. (PII KII 09 ER; dietitian)

A further observation was that of the perceived increase in religious fundamentalism within the community and specifically for the second and younger generations. This perception was shared by Bangladeshi's and non-Bangladeshi's alike whether working within the community in Tower Hamlets and elsewhere in the country.

[T]here's more women who are veiled now, so I think more women are choosing to cover themselves up, more than, to me, ten years ago, young women were not veiled, they were, you know, they wanted to dress Western. (PII KII 01 DT; public health dietitian)

I think what we should, we should, there is an issue of religion. Interestingly the religious aspects seem to be affecting the second generation more than the first. I mean there's this assumption, ah, that it's the first generation, the first generation, I think the first generation in a funny peculiar sort of way seems to be more liberal … relaxed. I find the second generation who are religious, who are, who chose to be religious, have taken it very strongly [laughs - both] but, you know, what can you do in a world that's increasingly becoming polarised on religion, on all sides. (PII KII 05 TA; Bangladeshi; GP)

7.0.1.3 Food Literacy

Food literacy for the Bangladeshi community was broken into two broad areas. For the first generation food literacy related the desire and need to purchase foods with which they were familiar and knew how to prepare based on their past experiences and not understanding of how to incorporate new, non-Bangladeshi, foods into traditional recipes. This lack of knowledge means for some that they continue to buy more expensive imported foods rather than those which may be more readily available and are therefore more affordable. For the second generation food literacy linked into issues relating to new food knowledge where many members of the community may want to make dietary changes to increase variety in their diet and experiment with new tastes however without family and friends as role models, there was confusion about how to prepare and cook the unfamiliar foods.

I think when your first here it's about getting food that you can identify with, and cook, and present to your family. (PII KII 01 DT; public health dietitian)

I think the older generation, in some way, have a connection to food and, fresh food and cooking it and you know, tasting it and knowing where it's from, and whereas, I suppose, our generation, or younger than mine, is … I don't know if it was really flagged up as much of an interest until lately really, I wouldn't say that people really talked about it at all, in relation to your health. (PII KII 04 LC; Community interfaith co-ordinator)

I think it's just familiarity from what I can see so, um, the, what's kind of the absence of some of their local vegetables here for example, leads me to think they're looking for something familiar, um, taking my lead from T, and what does she say to, about other vegetables, I just make my suggestions that they could try some, that you know, they might be seasonal and fresher and so

on, but they're not routinely bought as far as I can see so I think it's familiarity, and it's therefore, just a familiar taste as well and look. (PII KII 09 ER; dietitian)

[F]ood that you know you can recognise, we all want food that we can recognise, I mean some of us are more adventurous but. (PII KII 12 SP; Community Project manager - food and health)

A great one I always say is chow-chow, chow-chow tastes very similar to dudi and like one chow-chow will cost you twenty five pence, it's sort of this Chinese type fruit, ah vegetable ... it is almost like a pear shape, like a Peckham pear, um, and then you've got dudi which is really expensive, and the difference is really minor but sometimes we'll go to different coops, some coops where there's particular people from particular areas are familiar with chow-chow and they buy tonnes of it, and other people are saying, 'what's that?', and then your saying, you know what, it's really great, you cook it just like a dudi yeah, and it's brilliant, yeah, um, you know, you're paying nothing for that compared to what you pay for a dudi. (PII KII SR; Bangladeshi; Community Healthy Eating Team Lead)

The abundance of food choices available in shops and markets was considered by some to be a hindrance where the large variety of unfamiliar foods from different nationalities increases the confusion involved in food purchasing.

No they don't understand … they go to the shop they buy it, they got choice, they got lot of choice and they got lot of time also to make it, and varieties of countries food, Chinese, you know, Italian, Moroccan. I think food choice, so much food choice is here and that's why they are lost. (PII KII 07 JL; Bangladeshi; Community Project manager - food and health)

Poor food literacy also was highlighted in relation to drink preparations where there was a lack of understanding of the difference between fruit drinks and pure fruit juices thus while parents may believe they are providing their children with healthy options they are instead providing drinks of little nutritive value.

[L]ack of knowledge about the squash, they thinks orange is made by orange or Ribena, they thinks it's made by grapes, so they thinks that they offer their children, the mango juices, they thinks it is made by mangos, so is good. (PII KII RY; Bangladeshi; community nutrition link worker)

7.0.1.4 Cooking practices and preparation

The gaining of cooking skills by female members of the Bangladeshi community was seen by the key informants as something that was passed down from one generation to the next and especially after marriage. With the continuation of traditional extended families this was recognised as being a significant avenue for the maintenance of traditional skills.

[T]raditionally mum staying at home to do all the cooking, um, so that wasn't always being passed down, although you still found that a lot of um, when people got married they'd still live with their parents, so, that must be influencing cooking practices as well … (PII KII 02 NM; national diabetes policy).

I didn't really have a [chance] to cook in Bangladesh. I was the youngest in my family and I have five brothers, so their wives would do the cooking. (PII KII female Imam LN; Bangladeshi).

While for many these traditional cooking practices and skills are continuing to be passed down, there was recognition that for some they may be losing their skills as the pressure of modern lifestyles impacts on the time spent on meal preparation.

I don't know to what extent its being passed onto the next generation, … there's a sort of feeling that perhaps it hasn't and perhaps it's being lost, and perhaps also all the cooking skills are being lost as well, so I don't know to what extent you know, the generation here have learnt from their parents and their grandparents about how to prepare food. (PII KII 11 KL; public health).

SMA, a Bangladeshi elder also noted that when people such as himself arrived in the UK as bachelors they learnt cooking skills out of necessity by watching others. Cooking is considered however to be the domain of the women in the community, and as noted by the community participants themselves, when the men do cook they enjoy experimenting as they do not have the same constraints and therefore it is also done more for pleasure.

We learnt that in the past. In the days when we were alone [bachelors, newly arrived in the UK] we learnt and cooked ourselves. We learnt from watching parents and also when we came here [the UK] we watched. We cooked ourselves. We were all single in those days, when we came we cooked. One person cooked, and the rest of us watched and learned from them. (PII KII SMA Elder; Bangladeshi)

I think the similarities will be the fact the boys you know, still aren't being taught how to do things in the kitchen, have got zero cooking skills, um, although they do, as you say, tend to be more experimental, I know my brothers are more experimental 'cause they haven't got a clue you know, if you don't have a mind set about things you're going to be more experimental and you're going to learn as you go along. (PII KII 16 SR; Community Healthy Eating Team Lead).

It was also noted by one of the public health dietitians with regards to cooking classes is that compared to say English women, the Asian women simply need to modify their current skills to learn new styles whereas for English women they need to actually learn the basic cooking skills. For the Asian women it's all about learning to cook something new.

It's quite fun actually, as we did some cook and eats with some South East Asian women, and er, we thought we'd be doing work around modifying their won diets to er cut down fat, and that

wasn't what they wanted, they wanted to know how to cook pizza, they wanted to know how to cook spaghetti and that was quite fascinating to us that we, where as we go to their white counterparts and they wanted to learn to cook! [emphasis] basically. The Asian women could cook, but they were so pleased that they were learning to cook Western food. (PII KII 01 DT; public health dietitian).

Despite the women in many cases continuing to cook traditional meals there was a strong perception that these were being modified to various degrees such as replacing the type of fat used in cooking and, reducing the total amount of fat in cooking. This was particularly so for the second generation who are considered to be both more flexible and health conscious.

I have to say that is not a traditional diet _ even thought they are eating maybe Bangladeshi fishes, Bangladeshi vegetables but is not traditional way of cooking. (PII KII 03 RY; Bangladeshi; community nutrition link worker).

[W]hat you're doing in a cook and eat is teaching skills, what you're doing with an Asian group is actually, using those skills differently. she's an Asian women, and she complains her mother cooks with too much oil in, so there is a difference, there's more of an awareness I think of second generation, third generation, about healthy eating, but, ah, sometimes you can't, it's difficult to influence because if grandmothers cooking, mother is going to have a difficulty in influencing grandma, because grandmother is. (PII KII 01 DT; public health dietitian)

Well I do know … there's a younger contingent who cook differently; they use less oil and they always cook, well certainly on the vegetable side of things they say 'oh, I always steam a few vegetables or this, or just put those in at the last minute, so, you hear that being stated now with the younger ones, but equally there'll be younger ones who don't do anything different, so I think there's sort of, I don't think there's um, this generation this, and that generation that, certainly amongst the younger ones there is a … there are some different practices. (PII KII 09 ER; dietitian)

Some of the traditional ingredients that were once readily used such as ghee are now considered to be options only when special meals are being made rather than for day to day use as would have been the case when people from Bangladesh first migrated to and settled in the UK.

[M]y mum says when she first came to this country she cooked everything in ghee, she said that's all we know, um, she said we didn't' have, there wasn't shops … that sold culturally appropriate foods, um, the only thing that we know was that, you know, ghee was what we used, we used it in everything, whereas now, ghee is only restricted to use is cooking special food and special occasions and it might be pilau rice or something like that, very rarely is it used in other things, um, but instead people have sort of increased the amount of oil that they use. (PII KII 16 SR; Community Healthy Eating Team Lead)

There is a notable change in the importance of home cooked foods with the first generation preferring to prepare their meals themselves from fresh ingredients while the second generation and younger are more likely to purchase something from outside the home.

[I]n the Bangladeshi community I think they do eat fresh food, there is that culture of cooking, it's not processed food or pre-packaged, it is freshly cooked. (PII KII 04 LC; community interfaith coordinator)

If … they didn't like anything, the older generation, you know, they would cook something separate for themselves to eat for the night, but it would be home cooked meals, whereas we'd probably just buy something from Sainsbury's and put it into the oven, or chicken and chips, you know, lunch times whereas they'll hardly ever touch chips and chicken and that kind of food, so it would be homemade, whatever it is, so their snacks would probably be made out of rice flour, it would be home made, you know, onions and that, whereas our snacks would probably be a packet of crisps. (PII KII 10 MK; Bangladeshi; community nurse)

And finally, with regards to ready meals and convenience foods specifically there is a strong perception amongst the key informants that while the younger generations are more likely to purchase take-away foods they are still not necessarily eating ready meals where the halal status is less likely to be known. There was concern expressed that the choice of convenience food being made were generally biased towards unhealthy options.

So the new generation sometimes don't feel to cook at home every day, so, mmm, they're having, I think junk food. Junk food like fried chicken, fish, chips, other things, you know, so, the new generation are not. (PII KII 03 RY; Bangladeshi; community nutrition link worker)

It's all convenience foods, yeah, it's not healthy Western, that's why I say I am worried because they're not actually learning any good things if they're going. (PII KII 06 NC; Bangladeshi; community project manager – food and health)

I'm sure there are people, 'cause you can't generalise and say no one buys them because I'm sure they do but I don't know what convenience food they would buy, 'cause there are restrictions on it, especially for the very religious, you know, things being halal, you could take that a step further and just not having meat but there are you know, the products that are in there, there's a whole list of stuff that's not halal including chocolates and things like that, so I'm not sure. (PII KII 12 SP; Community Project manager - Food & health)

I don't know so much about ready meals, um, I think things like oven chips and those kind of frozen convenience foods are, but I don't know about if they would go and buy ready, I don't think they do really from the people I see generally … they might do oven chips here and there or those kinds of processed foods but not like the lasagnes and the curries that are ready made I don't think. (PII KII 15 WP; community dietitian)

The passing down of traditional cooking skills to daughters and daughter-in-laws was thought to be continuing although it was observed that there does appear to be an erosion of skills taking place as a consequence of modern lifestyles. While many of the younger women still live in extended families, they also now often work, unlike the first generation women, therefore have less time to devote to meal preparation in the traditional way. The style of traditional cooking between first and second generation was also thought to vary due to the second generation being more health conscious and wanting to limit the unhealthy ingredients such as fat. Whilst saying this though, there was recognition that the second generation had a far greater reliance on convenience foods, especially high fat take-aways.

7.0.1.5 Mealtime structure

A distinction was again observed between this Bangladeshi community and indigenous Britain's in that while there may be some changes to cooking practices and meal time structure in terms of whether they are able to eat together as a family unit, there is the impression that they are maintaining a mealtime structure to a greater extent by continuing to have prepared meals rather than simply grazing throughout the day. Saying this however there are distinct exceptions seen for the youth and especially the second and third generation men and boys.

I think the Asian family will, will, will have more family meals, and eat more as an entity than, although I'm sure that's breaking down as well. (PII KII 01 DT; Public health dietitian, national)

[T]he first generation are more structured but I suppose, you know, young people tend to like, a lot of the younger people in western culture eat on the go, take-away, snacks away from the home. (PII KII 02 NM; national diabetes policy)

One of the main reasons noted for the changes in the ability, or not, to have meals together as a family was the influence of changing lifestyles, especially for the second generation where the wife as well as the husband may be working or the reality that the men may often work shift work or long hours due to their type of employment such as in restaurants.

I think there's both, I think there's clearly much more family eating, and there is another population where it's almost absent, but I think in a family where um, the male is working and perhaps does odd hours, there does seem to be the same sort of thing where the wife with children will eat at a certain time, it will be late otherwise, I think it's, so I think the family meal occurs much more frequently but I do, there's a lot of, um, not eating like that now appearing, partly because of working and perhaps education things as well. By comparison there's still a lot of family meals I think. (PII KII 09 ER; Dietitian, weight management)

[T]raditionally, food is seen as a time when the whole family gets together and it's a time to also socialise and enjoy their meal, but in this country because everyone has, you know, work and especially different hours of work, most of the men in our community are working late nights and in restaurants and because of the time difference it's very difficult for the family to have a meal

together. So most of the people who are studying or working will eat in their workplace and it's becoming rare and rare as families are beginning to work more and more and the wife as well now., Before it used to be quite rare the wife, women working now it's becoming more common so everyone is busy and have their lunch and dinner in their own time. (PII KII Imam AAB; Bangladeshi)

In addition to changing meal time structure with respect to families coming together for main meals, the key informants observed that snacking is becoming more prevalent, once again especially for the second and third generations.

I think for the … older generation, I think they stick to their breakfast, lunch and dinner, they don't snack as much as we do, I think we snack a lot more, um, we snack a lot more but then what happens is the second generation I think skip breakfast and lunch a lot and then they snack and then they have lunch and then they snack, and then they probably have meals at all sorts of weird times, um, that's one of the things I am finding that their snacking a lot, a lot more. (PII KII 10 MK; community nurse)

Regarding what is specifically considered to constitute a meal the Bangladeshi key informants were best able to articulate what they felt constituted the essential components of a 'meal' for this community with their descriptions reflecting the concepts of staple, complementary and accessory foods (Kocturk-Runefors T 1991) with rice emerging as the basis of meals.

… rice must be, as a main carbohydrate food, rice, and, er, meat, chicken, and um vegetables, fish. OK, so there are, ah, option actually, some rice fish and some _, mostly women likes to eat fish, men likes to eat meat…And, vegetables, lentils as well, dhal, these are main meal… (PII KII 03 RY; community nutrition link worker; Bangladeshi)

The younger generation aren't really fussy about food and having three or four dishes. They'll just have a piece of chicken here and there or even a bar of chocolate, crisps, anything really. The older generation for them there has to be rice and curries consisting of fish and meat. (PII KII Imam AAB; Bangladeshi)

Western foods while being prepared in place of some of the more traditional meals were not considered to be as important and for many only seen as snack foods not a real meal, or an occasional substitute. For the men it was highlighted that they in particular preferred to have traditional foods on a regular basis which may to some extent be influenced by them not being the person who has to also prepare the meal, that is, no effort on their behalf required.

they will cook pasta with fried egg and everything, it's beautiful as a nasta, nasta mean a snack. They wouldn't, if you eat pasta as a main meal, it's not, it's a very shameful thing for the family giving pasta, invited you and I cook pasta foods, they think pasta is a snack and then you will eat full meal. (PII KII 07 JL; Bangladeshi)

I think they are most families, I know there are a few, very few you know in the second generation probably are now starting to change a little bit more towards the western culture, but what I think, you know, in terms of foods they eat, but I think we are still, like for myself, we still have to cook rice and curry every single day. You know, if I made spaghetti bolognaise like I did yesterday, that would only be lunch, it wouldn't be dinner, there would still have to be rice and curry available, so I think it's considered as a big part of our diet and we are still having fish, it may be not as much as you know, the older generation, but we are having, at least one or two portions of fish a week. (PII KII 10 MK; community nurse; Bangladeshi)

I think it's the guys are a bit spoilt by there mums, I think honestly most Bangladeshi men you find, no matter how western they are, and how Cockney they sound, you will know by the end of the night, …you say to them what would you like to eat, rice and curry or some bolognaise or some pasta, they would say rice and curry. (PII KII 10 MK; community nurse; Bangladeshi)

A further extension of the concept of what is valued as food and what is considered an added extra but not essential to the diet is also reflected in the selection of foods for snacks, for example fruit. There is ambivalence within the community in that doctors are often criticised for having a very medically dominant rather than holistic view whilst at the same time the diet is compartmentalised into staple, complementary and accessory foods rather than all groups bringing value to the whole diet to achieve nutritional balance.

…an apple is like a side dish isn't it, not actually a food, they don't see it as food … (PII KII 06 NC; Community project manager – food and health; Bangladeshi)

Overall, the importance of the mealtime structure and eating together as a family was seen as remaining important to the Bangladeshi community, especially when comparing to the indigenous UK population, however as with the cooking practices, changing lifestyles have had a significant and negative impact. Rice continues to form the basis of meals whereas western food is seen as inferior however this importance, together with eating together was less observed in the second and especially third generation men.

7.0.1.6 Eating away from home / outside food

Amongst all of the key informants there was a strong recognition, as there had been amongst the community participants, that the intake of food away from the home, and particularly of high fat take-way foods was prevalent amongst the second and younger generations. The younger generation were seen to be more willing to want to try new food experiences as well as desiring the increased convenience of such quick and 'tasty' foods.

[Y]oung people tend to like, a lot of the younger people in western culture eat on the go, take-away, snacks away from the home. (PII KII 02 NM; national diabetes policy)

I think that for the generation that are working and maybe don't want to cook when they come home, they will just get take-aways and things like that. (PII KII 04 LC; Community interfaith co-ordinator)

For the community you're particularly interested in, you've then got the intergenerational thing where you may have the more traditional foods on occasion, but the second, third generation are eating more outside of the home, particularly the kind of third generation, where their eating to stay in with the peer group. (PII KII 08 PR; FSA nutrition division)

We tend to eat out a lot more now and the second generation most definitely from what I know are definitely eating out a lot more and trying different foods. (PII KII 10 MK; Bangladeshi; community nurse)

Usually once a week from my workplace. During the week we go with my friends and eat out. Mostly we go to Indian restaurants and have tandoori chicken and curried – similar to what we eat at home – but of course its better taste and better prepared. Also, you know, fast foods. Although we shouldn't have it…being part of the younger generation it's quite tempting for us. Donner kebabs, chips, burgers. (PII KII Imam AAB; Bangladeshi)

It was noted by one of the community dietitians that the intake of these take-way foods may be more prevalent amongst the first generation, especially the men, than actually admitted being somewhat of a guilty secret.

I wouldn't say everybody, I don't think your older generations necessarily are going and accessing them, but the younger people more so, but saying that, I've seen old Bangladeshi men in clinic that go to McDonalds, if they're not there with their wife they tell me that, so, maybe they hide it better. (PII KII 15 WP; community dietitian)

Particularly for the school aged members of the community there was also a very strong perception that this was a particularly negative trend that had developed into a detrimental new food culture, with the sight of children walking around during their lunch time and after school with boxes of chicken and chips now being a widespread phenomenon.

If you walk around Whitechapel, one mile around Whitechapel you see a hundred fried chicken and chips shop, one hundred, and when the school finishes each school child will have a box of chicken. (PII KII 06 NC; Bangladeshi; community project manager - food & health)

Probably too late to change the behaviour of the children isn't it, already has become a tradition like chicken and chips (PII KII 06 NC; Bangladeshi; Community Project manager - Food & health)

Fried is, fried is the street, fried so children are attracted by the smell and they love it. You can when the school come … I always see everybody has got a fried packet in their hand. (PII KII 07 JL; community project manager - food & health)

Absolutely! [Too much!] It is [poison]. It is not just in the [culture] but it is in people's [blood]. (PII KII Female Imam AN; Bangladeshi)

I couldn't say about the older lot but the kids I've seen like that. Fish and chips and in Whitechapel and places like that they eat these foods I've seen. Seems like it is coming into the culture or something. (PII KII SMA Elder; Bangladeshi)

[L]ike at lunch time, what do you all want to eat, 'cause I have to try and keep everybody together and it's like, 'can we just have chicken and chips'…that's what they would say most of the time, very rarely would they suggest anything different, even like a sandwich is out of the question … Asian people hate sandwiches, why would you want to eat a sandwich when you can go and get a kebab or something, you know. (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

As has been identified in previous studies (Carey S 2004;Collingham L 2005) it was recognised that many Bangladeshi's, particularly the first generations, don't eat in their Asian restaurants. A public health dietitian noted discovering this following a failed intervention programme where the target audience was missed as a consequence of this factor.

They don't use their own take-aways but they'll use pizza, and fish and chips, and that sort of thing, but they don't [emphasis] use their own. And I can give you some very good evidence of that, because we did ah, it's more about restaurants; we did a healthy eating for _ Asian restaurants about eight years ago. And when we came to evaluate it, the people who were attending were not, it's meant to, um, address the issues of diet within the Asian community and it wasn't what we were doing, we were addressing it for people who frequented it, which is not the Asian community. That's not to say that Asians don't do that, but I don't think that, I think [hesitates] the culture of eating out is more of a celebratory thing if they are going to eat out, it's not like, for us it's quite normal, you know, something you do quite often, but I think if they are going to do that, I think that um, I think the kids and take-aways yeah, I don't see many older people in take-aways, older Asians [considers] even at fish and chips or to take-away, cause I still think they do quite a lot of cooking at home, but I don't think that they use their own take-aways. (PII KII 01 DT; public health dietitian)

There were however some conflicting opinions in relation to the food in restaurants as while the majority key informants who commented on the type of food available stated that it was of poor quality, often unhygienic and westernised, the Bangladeshi elder believed it to be as good or better than home cooked, a view is more usual of the second generation community respondents such as Imam AAB as noted previously. Of note however is that this elder has a son in the industry so there is a potential for bias in his opinion.

The food is Bangladeshi. The way we have it at home is the way they do it over there. Of course, the cooks, some are good, some bad. I had a take-away – my son ran it, just like we cooked at home, it was done there. Food is always better cooked in a big, bog pan. What we have at home they cook even better [in restaurants]. They have a lot more items of course. (PII KII Elder SMA; Bangladeshi)

Its not like home cooked food, they make some kind of Bangladeshi/Indian food, but they ruin it. And to be honest if someone wanted to eat Bangladeshi food in a [healthy] way they could do that easily, if they want to eat it in an [unhealthy] way they can do that too. Now it has become so that all bad food is described as Bangladeshi food. (PII KII female Imam LN; Bangladeshi)

The intake of take-away food amongst the second and younger generations is seen as a significant and negative trend, adversely affecting the dietary culture but also thought to have long term implications for poor health. Whilst not deemed to be such a problem for the first generation, it was felt that their intake was likely to be higher than admitted; somewhat of a guilty secret. In regards to the choice of take-away, pizza, fish and chips, and fried chicken were seen as popular choices however Bangladeshi take-away was generally not consumed, being inferior to home-cooked food and also unhygienic.

7.0.1.7 Food purchasing practices

The distinctive food purchasing practices noted by the community participants were also recognised by the key informants, especially those who are ethnically Bangladeshi. The reasons behind these practices were not necessarily understood, being more of a general observation for the non-Bangladeshi participants.

I mean there seems to be a big male shopping scene among Bangladeshi families, and I remember talking to somebody on the Ocean Estate, when they set up their food co-op, and one of the things they had to do, was um, have a women only food co-op session, or, otherwise it was just the men who came, and they realised they were, that was fine the men came and bought the food which was good, but they weren't making contact with women and children, so they started doing a women's session, with a crèche, and stuff for kids to do and stuff for women to do, um, and used it really as a, not just food co-op, as a way of reaching back into the community. Um, but I know when I used to walk home on Friday night, there'd be the vans parked, and the Bangladeshi men with their blue plastic bags, and also the shops along Brick Lane, a lot of men doing the shopping, so that, I felt, I didn't really know what that that was about, whether it was the women frightened about coming out, whether it was the men didn't want them to… (PII KII 13 VS, Public Health, Regional)

In relation to the type of shopping in the supermarkets it was observed that it was the bulk store cupboard and processed foods in particular that were most probable to be purchased. This trend however is not necessarily unique to this community. It was also highlighted that many of

the new Western foods being purchased in the supermarkets were not replacing rational foods but rather being purchased in addition to these foods, extending the variety of the diet. Fruit and vegetables were thought to be purchased from the markets and meat and fish from Bangladeshi stores.

But, if you actually go into a supermarket at Whitechapel, Sainsbury's, you will see that there are, you know, big bags of rice and so on in the trolleys, um but there are the fizzy drinks and bags of crisps in large quantities, and then if we go into the foods outside their usual cultural range, um, it's the pasta and the 'Dolmio' sauce that you see. So I suppose what I, personally do to kind of check out what's going on, I look in the supermarket trolleys, which when I first started working down there is what I did, and that does seem to be born out, so, there's still the very traditional, familiar looking things for the family meal and that seems to run through the generations but there's the add on's, so their not replacing they're just adding on the crisps and the sugary fizzy drinks and so on. (PII KII 09 ER; dietitian – weight management)

Fruits and veg I think most people get from the market, the majority of people get it from the market, um, bigger shopping such as milk, bread, all of that would be from Sainsbury's, the commercial stuff would be from Sainsbury's, but the fish and meat and all that would be from the supermarkets which are like Banglatown, the big shops, … all the different kinds of fishes again will be from the Bengali shops, so the meals, main meals, will be from the Bengali shops … the fruits and veg will be mainly from the markets. (PII KII 10 MK; community nurse; Bangladeshi)

The observations relating to shopping practices reflected the gender roles of the men and women in the community although there was confusion as to the reasons behind this. Those with a better knowledge of the community habits noted that mostly store cupboard items were bought in the supermarkets, together with any western foods, whereas the fruit and vegetables, and fish and meat, were bought in the Bangladeshi markets and grocers.

7.0.1.8 Sources of Information

There is a widespread acknowledgement amongst the key informants that the health promotion messages, in relation to dietary composition, are to all appearances being heard by the Bangladeshi community as a whole with changes to different aspects of diet and lifestyle occurring both within and between generations.

[T]hink it's just slowly seeped in because there has been a sustained campaign by Doctors, professionals, media and local voluntary groups (PII KII 05 TA; Bangladeshi; GP)

[T]here's a lot of health promotion … that's also another thing that's having a big impact because I think a few years, even ten years ago, I don't think there was so much health promotion, well I didn't, well I personally didn't know about it, um, but now I do see, you know my friend bought a lovely um, what is it, the five a day, you know the chart, she bought that

home and stuck it up in the kitchen and I thought wow, this is fantastic. (PII KII 10 MK; Bangladeshi, community nurse)

While it was noted that these general healthy diet and lifestyle messages were beginning to filter through the community, an observation was also made that the link between overweight and obesity, and their related nutrition related NCD's such as type 2 was not being made so clearly and therefore not as widely recognised.

[T]o be honest I don't think it's been pushed, I think we all know, I think the public know that obesity is an issue, but I think they're more of, they know it's bad for their health but I don't think they have really pushed the side effects of diabetes. I personally don't think, I mean I'm aware of it but I don't think, seeing what's in the newspapers, it's very much more body image and just general health and maybe more heart disease but diabetes I've not, I don't think they have pushed it as much. (PII KII 15 WP; community dietetic manager)

The methods by which the generations access this information differs between the generations with the first generation more likely to acquire new knowledge via word of mouth spread between members of the community, as well as from attending sessions at community centres or the mosque and Bangladeshi media. For the second generation, they are seen to be more likely to access information via mainstream media whether print or television. Health care professionals and in particular general practitioners were also generally considered to be a source of information although the perception of the quality of this information was variable as shall be mentioned shortly. For the key informants that represented various health professional groups however there was recognition in the importance of partnership working with non-professional groups within the community in order to achieve the most effective reach.

[A] community centre having that role really to do that in a non-threatening way, and using food, which brings together people and you know, is an interesting way, people are always interested with their food aren't they? They will come for that. (PII KII 04 LC; community interfaith co-ordinator)

The older generation I think, the way they get it is from talking to each other so it's about you know, taking to your friends and when they talk about oh this tastes nice, yeah this is really good for you or something's happened to someone, that's the only time I've ever heard them say 'oh this is good for you or this helps with that and they all sort of share knowledge through you know, sitting together and having a little chat. Um, I don't think they read books, I've hardly ever seen any older person read a book to find out … what's good for them, but it's what their grandparents and their grandparents have told them, their uncles and aunts have told them, so the message is being passed down and often that is the better diet than what we think or the new generation what they think it should be. (PII KII 10 MK; Bangladeshi, community nurse)

[T]he second thing is the community partnership, you know like community organisation, places, of course school is the place where, like intervention should start but then … the whole

community should go to the places, community places. (PII KII 06 NC; Bangladeshi; community project manager - food and health)

[G]oing to Mosques for example or Mullahs, and working with sort of local community leaders that really, my understanding is that they are really the people that have the most respect compared to health care professionals or the government. (PII KII 02 NM; national diabetes policy)

[W]e worked with the Muslim working group. It's a group of leaders from Muslim, or who come in and meet with us regularly, and actually, they've asked us to go talk to them specifically about weight gain and needs next week. So these issues are on the agenda, but it's how that then feeds down or whether that there's something that's feeding up or are they just picking things that they think we'd be interested in, I'm not sure when we go talk to them, or talk with them I should say, like it is actually a discussion not a stand up session, um, you know, they seem to be showing engagement and wanting to improve life for their community. (PII KII 08 PR; FSA)

Once again women were considered to be a particularly important target due to the influence they have on other members of their families in relation to menu selection diet. A particularly handsome phrase was that from a female Imam who noted that "*nations come from mothers*".

And I think the best, another way, we tried … actually the women's group because they had the people who was deciding what they're going to cook isn't it, so it's like the women's group you know … because they're the people who are going to do the, they're the ones taking the decision about the menu's …(PII KII 06 NC; Bangladeshi; community project manager - food and health)

I think mothers need to be given more information, because nations come from mothers. Mothers being [educated] is the most [important] thing. It's important for fathers too, but they are out working and they can learn things there, but the [queen] of the home is the mother. They take care of the home, they decide on the food, they are in charge of all these things. That's why its so important that mothers are aware of these things. (PII KII Female Imam AN; Bangladeshi)

As with the community participants, there was widespread agreement in the need for more dynamic ways of delivering information rather than the old fashioned handing out of leaflets or few minutes with the GP. As such a combination of strategies were seen as the way forward including health care professionals working more closely with people within the community such as community organisations, link workers and religious leaders to provide support and training and thus enabling 'insiders' to provide more consistent and accurate information.

I think possibly some of the information isn't given, user friendly, so I think it's about engaging with the communities to help them help each other, because I think they're more likely to take. You see it, you see it in umm, white communities as well if, if the person that's imparting the

knowledge or information is seen as one of them, it's much more acceptable information because, you are one of them, rather than an outsider who really doesn't know anything about you. (PII KII 01 DT; public health dietitian)

Religious leaders, when they say something about health, people tend to listen. If imam spoke about health and food from aspect of the Qur'an and Sunnah, it would be taken seriously. But a combination of doctors, imams, scientists, they all need to give the message. (PII KII Imam AAB; Bangladeshi)

I suppose people like Link worker, you know, Link workers generally come from that community and they've proven, a lot of research has proven, to be very successful. A lot of dietetic link workers for example, and you can understand, you can completely understand why, um, you can be an expert as a health care professional, you can be an expert, but I feel people don't really, I think it's human nature, I don't think you've got that empathy unless you're from that actual community, ah, and I can understand why people don't, would take on board, you know messages someone actually came from that community you can relate to as a so called expert. There's always going to be barriers, no matter how good you are. (PII KII 02 NM; national diabetes policy)

The use of more stimulating forum such as via social marketing and use of celebrities or community television were seen as viable avenues, some of which had been successfully used by key informants in the public health arena. As mentioned, the specific medium being tailored to the audience, with what is appropriate for first generation not necessarily being so for the second and vice versa.

[S]o if you could actually make healthy eating seem attractive, get celebrities instead of promoting Walkers crisps for example, and all f the other, all the other unhealthy food, get them actually promoting fruits and vegetables for example or you know, yoghurts, children are influencing, in the celebrity age we live in, they are influenced by celebrities, that could help. (PII KII 02 NM; national diabetes policy)

The other things is that a lot of what we need to do is around communication and marketing and the traditional health promotion stuff has always been send out a leaflet, it's been sort of, we'll talk at people, tell them "you must not do this, you must not do that, and we actually need to be a lot more sophisticated about that and we need to be, given that, you know, say for instance around healthy eating, we're up against, ….. huge corporations who've got huge … budgets around marketing. (PII KII 11 KL; public health)

I think nowadays lot of people have, has got Bangla TV … if you do some sort of health education on Bangla TV, lot of people have got S channel, channel S, and Bangla TV … everybody got it, people watch it, but not the second generation. (PII KII 07 JL; Bangladeshi; community project manager - food and health)

I think the presentations changed, I mean just some of the, not the kind of specifically health programmes on telly, but you know, the stuff around lifestyle, it seems to have become much more OK [emphasis] to get into this stuff and kind of, it's fun to be fit, it's, you know, healthy food tastes good, and it's not just the Dietitians and the Physiotherapists that are pushing those messages, you know, it's actually like mainstream TV presenters, and people who obviously have a, you know, market with young people and stuff like that. I suppose it feels to me as though it was the things that were the marginal messages that were the fascist messages, have really begun to infuse the mainstream in a way. (PII KII 13 VS; Public Health, Regional)

It was also noted that in using the media there is a need to move away from simply creating the moral panic and to be able to move the media to campaign about societal change rather than focusing on the individual and stigmatising those who are overweight or obese.

There's a lot of scare mongering in the press about children are going to die before their parents (PII KII 02 NM; national diabetes policy)

One of the key informants suggested curry restaurants be targeted for health promotion activities due to the unhealthy high fat cooking practices often employed, although as has been noted by other key informants and community participants alike, this strategy would serve the whole of the population rather than necessarily targeting the Bangladeshi community who do not usually frequent these establishments. An exception to this is for the workers themselves who as noted by one of the first generation community participants suffered from poor health as a consequence of consuming the majority of their meals at work (see section 6.4.3).

Also the amount of restaurants, curry restaurants, that are locally, I think a little bit of campaigning in those for the amount of fat, the oil they use to make the food tastier, we could target them. (PII KII 05 TA; Bangladeshi; GP)

A distinction was made between the original Bangladeshi's migrants in Tower Hamlets from the Sylhet District, and the new wave of migrants, often on highly skilled visas that are now coming from the Capital Dhaka with those from Dhaka being more isolated from their traditional extended families and therefore being more willing to accept advice and often actively seeking assistance. This is in contrast to those from the majority community, especially the first generation, who more readily rely on the social structure within their community to access information.

[T]hink they're a lot more interested than the Sylheti's would think 'I've got family here, they would help me'. The people from Dhaka don't have many families here 'cause it's a fairly new thing for them, they don't have that many people of support around them so they are a lot more willing to take on advice from professionals, and I think they will be a lot better in the long term keep their health and diet well. (PII KII 10 MK; Bangladeshi, community nurse)

Amongst the health professionals' general practitioners, despite often being held in high esteem by the community, were highlighted as not necessarily being a good source of nutrition related information due to their own time constraints as well as lack of counselling skills and knowledge in the specific area of nutrition. These views were held by health professionals, usually nutrition related, and non-health professional key informants.

Well I don't know, I think, I think GP's are held in high esteem within, um, particularly within the Asian community, I'm not sure in some of the others, but I think a doctor is seen, and a male doctor particularly is as high regard. Um, the trouble is, most medical doctors don't have an awful lot of knowledge in the area, so, they possibly aren't confident to give the right information. Not that this has stopped them in the past. (PII KII 01 DT; public health dietitian)

GP's do but again this, I don't know how evidence based this is, I can only go on what I suppose I hear from what I've learnt hear and um, … GP's I suppose sometimes they say, even if they are respected within the community, what people retain in a consultation is so small anyway, that even though they're respected, GP's are still, through no fault of their own, their training, they don't have the best sort of counselling skills to get over the right messages, so, they don't have nutrition training, so even if they are respected, sort of how many correct health messages that they're giving anyway, nutrition related, um, in such a short space of time. (PII KII 02 NM; national diabetes policy)

Do doctors and nurses in this country ever advise anyone? They don't advise anyone. I have high blood pressure, when ever I go to my doctor my blood pressure is always high, but he has never advised me about any foods. (PII KII female Iman LN; Bangladeshi)

There was some acknowledgement however that beliefs around the benefits of different foods and complementary medicines amongst health professionals is changing with time, a positive development for those who recognise the value in traditional medicine as well as holding beliefs in the healing properties of foods as recorded in the Qur'an and Hadith traditions. As such accessing health professionals who are experts in their specialist fields were considered important.

Seek the advice of doctors and experts. As time passes different medicines and herbs come into recognition. Best thing to do is seek advice of experts, nutritionists, specialists in these fields. (PII KII Imam AAB; Bangladeshi)

The amount of misinformation presented to the general public was a considerable topic of concern for the confusion it caused, whether it is received through the media and self-defined experts who spin bad science; inadequately trained volunteers or via the community itself who may have reinterpreted advice that they have received themselves thus leading to small permutations like the effect of 'Chinese whispers'.

There's a lot of misinformation out there, so people aren't getting the right information, in the press … you've got newspapers and magazines and all this, really incorrect messages, you've got it on television, Jillian McKieth's not a dietitian, not a doctor … and people, unrealistic … ideas of how to lose weight which is not helping. (PII KII 02 NM; national diabetes policy)

So on a sort of household basis there's a thing in the voluntary sector about giving people information about healthy diets and things, so … I just think there's probably a huge section of the community who are not necessarily getting any good quality information, good quality, consistent information … and I guess people are getting information from all sources and it's not consistent and it's confusing, and I think if your, you know, like if your eating an unhealthy diet … but you don't visibly see the effect it's having on your body, you may just persist in it. (PII KII 11 KL; Bangladeshi; public health)

I think it's word of mouth, I don't know what to say about the dietitians and nurses who try and do a good job, I talk to people who have just taken on board things that have been literally said to them, but I think it's definat[ely], because it's a close knit community, I would say that, the knowledge does originate from somewhere, whether it's leaflets or dietitians or nurses, um, that gets filtered through the community by word of mouth, um, I know that a lot more community centres, community centres aren't accessed by everyone, they have projects they talk to people, for some people it's quite scary, some people take things on board literally, you've got people working in community centres that love dishing out advice on health which isn't always correct, and somebody even less knowledgeable comes in and takes that on board, you know. (PII KII 16 SR; community healthy eating team lead)

When asked specifically about the effectiveness of front of package food labelling as an avenue for delivering dietary information and specifically the two current systems: traffic light labelling and the GDA[62] the majority of the key informants were is favour of the FSA traffic light system for its clarity and ability to be used by those with a poor educational background and / or have poor literacy and /or numeracy skills. A dominant observation however was that either system was potentially confusing for consumers with dietary choices being complex decisions and thus further education was required to enable people to be able to interpret the systems based on their individual requirements. Those working in nutrition education especially highlighted the need for significantly more education in relation to food labels if they are to be an effective method for delivering information to consumers.

I think this [TL] is universal, this [GDA] is I think more targeted at the people who can read and write and understand, it's a bit more educated I think this is aimed at, I think this is for everybody. And it's easy for your shopping; it's just have a look rather than read through everything, it's too much time. (PII KII 10 MK; Bangladeshi; community nurse)

[62] Guideline daily amount

I have to say that although I'm you we've got the traffic light system and the GDA's and all that, um, I'm still not sure that people understand what that means, and what does it mean to me and my diet? And you're also going to look at it from a different perspective. If you we're wanting to lose weight you might go for the low fat thing, if you were really worried about your blood pressure, you might go for the low salt thing, so you don't, people don't make choices about a healthy diet, they buy it on terms of their individual priority. So, you know somebody's whose athletic might go for the high sugar stuff, so, you know, I think we need more education about what constitutes a health diet, or eating for health rather than a healthy diet, ah and, more explanation of what those guidance's mean, you know, what does it mean? (PII KII 01 DT; public health dietitian)

[T]here is lack of understanding of the nutritional information they provide, it's meaningless to the man on the street. (PII KII 02 NM; national diabetes policy)

So it may be about education people, in places like ours, about labelling and what to look for, what the green light means, what the red light means so they can go out and you know. (PII KII 04 LC; community interfaith co-ordinator)

And I think the other thing that is so difficult is food labelling and so on, so I think there's no way the average person on the street can understand food labels, that's my, there's no way I can show them how to, I really don't believe you can. (PII KII 09 ER; dietitian)

By and large there was a positive perception that the public health messages are starting to be heard and disseminated within the community resulting in a greater understanding of the links between overweight and obesity, and nutrition related diseases such as diabetes. It was thought however that more dynamic methods of disseminating the information were required using the preferred forums and mediums of the targeted generations. Where the first generation were more likely to use social networks for communication, the second generation were thought to use mainstream media. More recent migrants from Dhaka were also less likely to use the social networks, due to not having the same extended families and were therefore more willing to seek and accept advice from healthcare professionals. Misinformation was a concern amongst the key informants, including that given out by community workers, highlighting the importance of involving the community and supporting training to ensure consistency in the messages. General practitioners and dietitians were both seen as experts and good sources of information however general practitioners were thought by some to lack adequate nutritional knowledge, time and the appropriate councelling skills. Finally, on the specific issue of food labelling, the Food Standards Agency Traffic Light System (TLS) was considered the best option as many peope have had poor education and therefore lack adequate literacy and/or numeracy skills for the more complex Guideline Daily Amount system. Even with the TFS it was education on the use was thought necessary to enable people to understand their use.

7.0.1.9 Class and education level

While overall the key informants acknowledged there were a wide range of influences on food choice, there was amongst some the perception that people from the lower socio-economic groups make poor food choices because they are uneducated and in some cases simply can't be bothered, or in other words, the poor are ignorant and lack personal responsibility. To this end some felt that it was the increasing educational levels that have led to improved diets amongst some members of the community.

I saw my sort of middle class, a bit richer friends, you know, snacking on fruit and stuff like that… (PII KII 04 LC; Indian; Community interfaith co-ordinator)

I also think there's definitely a class issue there, because people that I see from lower socio-economic groups are very much less bothered … (PII KII 08 PR; FSA – nutrition division)

Immigrants, whether from the Sylhet region or the new wave from Dhaka, are perceived to be taking on the unhealthy Western dietary habits of 'poor' people rather than the middle classes.

[I]n Dhaka you'd find there are quite a lot more educated people, there again they come here and they think, it's still going back to how the Sylheti's were when they first came here, you know, adjusting to the trend of the, um, western diet… it's the junk part of it, it's the part that you'd find um, not the middle class would have, it's the poor, sort of the poor people, that diet they're adjusting to, and that's not good at all. (PII KII 10 MK; Bangladeshi; Community Nurse)

As widely acknowledged in the literature, lack of educational attainment and poverty were thought to be linked to poor food choices although opinions as to why differed.

7.0.1.10 Health knowledge

According to the key informants interviewed the Bangladeshi community appears to be no more or less knowledgeable than the general public in relation understanding of the link between body weight and risk of diseases such as diabetes, and is in fact this knowledge is seen as improving. A reduction is also being seen in previously held beliefs that weight is linked to health and status.

Despite positive changes in health knowledge the same misconceptions are being seen as in the broader community with components of the information received being misinterpreted and thus an overriding problem was considered to be one of how to communicate the health messages per se' as noted in section 7.0.1.8, sources of information.

I think in terms of the awareness campaigns that we've done as an organisation, … done lots of Mori polls, they've proved that we've really made a difference in raising peoples awareness of

the link between obesity, a persons body mass index and waist circumference in terms of the risk of Type 2 diabetes. (PII KII 02 NM; National Diabetes Policy, non-statutatory)

[P]eople are actually aware of this ghee is not very good for health, and you know, the diabetes, heart disease, people are now aware of this message. (PII KII 03 RY; Bangladeshi; Community Nutrition Linkworker, NHS)

I don't know, it's people are realising, I think in the Asian culture if you had, if you were fat, you know, overweight, you were looked at as really cute, healthy, it's quite ah, it's nothing to worry about really, but now, people are realising that health issues links *up to that and you know, everything else that goes with it.* (PII KII 04 LC; Community Interfaith Coordinator)

At least people realise their food habits are not maintaining their health and that's why they are getting more diabetes, heart disease. (PII KII 05 TA; Bangladeshi; General Practitioner)

So, as to their attitudes to diabetes and so on, I think it's starting to get home because I'm noticing that there just seems to be a slightly different attitude with the Bengali patients that I see who have been told to do something about their weight because their a bit iffy I think the word would be and they've got the family history… so there does seem to be a little bit of that there now, so I suppose that's just an awareness thing, but there certainly is, there is a difference I think. (PII KII 09 ER; Dietitian, weight management)

[T]here's a lot more programmes on tele as well and because I think there's a big thing on the news about obesity and diet problems, I think people are taking it a bit more seriously now. (PII KII 10 MK; Bangladeshi; Community Nurse)

Not all of the key informants believed that the link was being specifically made between obesity and nutrition related diseases such as diabetes with information often focusing solely on the condition and not its consequences.

I think the public know that obesity is an issue, but I think they're more of, they know it's bad for their health but I don't think they have really pushed the side effects of diabetes. (PII KII 15 WP; Community Dietetic Manager)

As with the wider community there were a few misconceptions in relation to links between specific foods such as sugar and diabetes, as well as the types of foods to be restricted for those diagnosed with diabetes, and the effect of meal timing on digestion. Overall however, as expected, the key informants were well informed and had a good fundamental understanding. When discussing the misconceptions amongst the community itself there was a feeling that there were a number of mistaken beliefs about what constitutes a healthy, balanced diet although they are not perceived to necessarily be any more or less informed than the general community, one key informant noting that the general public tended to be equally ill-informed.

[E]specially the night meal, they taking too late, so ten-ish, eleven-ish, twelve, and as soon as they take meal maybe straight away they go to bed which is really bad isn't it, I mean because obviously it won't be digested isn't it. So those meals time is not really healthy, people need to be told that you must take, I think, what was it, three hours before you go to bed or something like that (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

[S]ometimes we're at the food coops and I have to say, ninety five percent of our client groups are Bangladeshi, and a high, a very, very, high proportion of them have diabetes and heart disease but yet the most … popular foods at our coop are I think like mango, melons, lychees, you know, and when you, um, talk to people, like melon is like the obvious one that people can't imagine that you know, for a diabetic, your restricted to having like a tiny, tiny, tiny piece, yet you know, people consume melon, 'cause I think, when you're diabetic you're also a lot more thirstier [sic], so when you've got melon and it's hot, you know, people consume a lot more. (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

I know a bit, mainly sugar is the number one [enemy], also it's not good to go for a [long time] on an [empty stomach] and then stuff yourself to a full stomach. That could be a cause too. (PII KII Female Imam LN; Bangladeshi)

A further point noted was that there is a perception that a healthy diet is generally conceived to be about what to avoid rather than what to include in order to achieve a healthy overall balance. There is also a lack of differentiation between the nutritional value of the food groups as a consequence of differing production methods. In other words, potato and chicken is considered a good option regardless of whether it has been deep fried or cooked in a curry.

[T]hey seem to be just as aware as anybody else is aware, or not aware, of the fruits and vegetables side of things, so I think that's filtered down, I don't notice really any difference, so you have much confused as in any, in any group. Um I think things like the fish is healthy and so on has gone through to such as extent that they often think meat is bad for them, so there's the other side of the coin isn't there, where there information gets slightly misinterpreted and skewed. So I don't notice huge difference in amongst the ones where I feel I'm able to get good feedback as to what they know, but of course the big problem is the larger number of patients you see, well you're not really sure your communicating directly with them, so I suppose the things not to make, maybe assume that this is common everywhere. But I don't get any 'oh, I didn't know that' kind of thing so they seem as informed about that. The know about their sweets and chocolates, their version, the English version they seem to be well aware, so … I don't see there's a difference, and I think there's equally the same um, concept of health eating being about what you don't eat; I think that's the same, and my diet is healthy because I do not eat whatever, I don't notice a huge difference so I think everybody's equally ill-informed. (PII KII 09 ER; Dietitian, weight management)

Yeah, they don't see anything wrong with it because they're having the chicken, they're having potatoes, it's filling, chicken is good for you, potatoes are good for you, so, it's good, it's a good

diet, the fact that it's fried, that bit just doesn't come into the equation but the fact that it's chicken, chicken is good and potato's good for you so it's a good diet. (PII KII 10 MK; Bangladeshi; Community Nurse)

The key informants responding to the question regarding health beliefs within the Bangladeshi community were primarily those from the community itself with one exception. The comments related to both their own specific beliefs and their knowledge of widespread beliefs within the community. Aspects were discussed which related to both traditional and westernised systems of medicine, often having a combination of the two, maintaining traditional beliefs with their religious context as well as incorporating contemporary recommendations based on western dietary research. In respect to traditional aspects there has also been a move to encompass traditional medicine from Islamic nations outside of Bangladesh, particularly Saudi Arabia. Many of the traditional beliefs appear to draw from the Ayurvedic system hot and cold foods with implications for providing strength or cleansing the blood; other beliefs are embedded in religious food laws within the Qur'an and Hadith Narratives.

[T]here is obviously, you know, certain theories are regarded as, hot and cold foods for example or helping to cure diabetes, karela for example, that's a huge, I mean when I've gone to various events for Diabetes UK, a lot of people think karela can sure your diabetes (PII KII 2 NM; National Diabetes Policy)

[R]ecently I heard about this, but back home I never heard about black seed, but now is, I think is came from, umm, Saudi Arab… So people are believing in that, um, makes you feel better or something. And ah, another, some _, now I remember while I am talking. I heard about, um, garlic, that makes your blood [pause] very clean, I don't know if it's true or not, some people believe these things, with garlic (PII KII 03 RY; Bangladeshi; Community Nutrition Link Worker - NHS)

So that's the issue, this is the kind of food for Bengali general population, say, fish may be there but at the same time they got lamb as well, still oil is a big issue, the vegetable, what happened, the way they cook it is overcooked so again, and overcooking oil I don't think is a healthy kind of thing isn't it, it's like you are increasing, what it called this hydrogenated isn't it yeah, because if you have cooking oil and it becomes hydrogenated fat, so maybe that's another thing they're creating isn't it, a new fat, an issue fat isn't it? (PII KII 06 NC; Bangladeshi; Community Project manager - Food & health)

They have that, most people with diabetes will bring it [karela] home and cook it and that's very common, especially among the Bangladeshi's, they have it quite a lot. It's horrible and back home they drink the juice of it to help. But here they do, they cook it, they fry it, stir fry it, so that's the way they eat it here, it's a common one. (PII KII 10 MK; Bangladeshi; Community Nurse)

After the whole day they are [hot] and tired, after eating rice they [cool down]. (PII KII Female Imam LN)

God knows the [real truth] but our elders have said that black seed oil is good for health… honey. I eat honey. I like honey. For a very long time now I eat honey. God Knows the rest, but I willingly have honey, with certitude. It's good to have; it's good remedy for many illnesses. (PII KII Elder SMA; Bangladeshi)

Of the beliefs which are embedded in religious food laws within the Qur'an and Hadith Narratives, foods which are mentioned to have been eaten by the Holy Prophet are considered important; those specifically recommended however are considered essential to good health. The Imams in particular related specific foods back to the Qur'an and the Holy Prophet.

I do use black seed oil, and there is something called Ajwar dates, and the Hadith says that if you have seven Ajwar dates on an [empty stomach] then they are protected for the whole day. We have that, even though Ajwar dates are very expensive, my husband insists the whole family have them everyday on an [empty stomach] before breakfast. And we use black seed oil, if the children have a stomach ache I feed them black seed oil. If I have a head ache I rub it on my head. I don't have any medicine from the doctor in my house other than my blood pressure medicine. (PII KII Female Imam LN)

Every morning, when we eat as a family, thanks to God we have honey. No matter with what items we breakfast, we have honey. Time to time, with rice, we use the black seed. Blackseed oil we have regularly. Olive oil we have always… The Extra Virgin olive oil. Even then we use small amounts. Many use too much oil in their cooking. You can tell; it floats to the top. Also, in the Holy Qur'an, God has mentioned, 'By the Fig and the Olive…' we eat the fig [teen] as well. In our food we always have these items: honey, olive, fig. Also the black seed and its oil. When in the Qur'an and in the Hadith Narratives… the Holy Prophet, on him peace, he ate and specifically mentioned these and recommended… thus there is benefit in the, The Holy Prophet, on him peace, himself ate mutton, ate beef, other items, but he didn't recommend them. We can eat them, but there was no recommendation. That which he [specifically] recommended these very, very good and are fantastic for health. There is a vegetable you know called the pumpkin. The pumpkin anyone can eat. The severely ill person can eat it, without any problems. God's Messenger recommended it. That which he recommended, we should have a lot more of. Especially, there is another thing: water. Our community avoids water, drinks water less. There is such a benefit in water. In the Qu'ran God, the Sustainer, Says: 'Wa ja'alna min al-ma'ai kulla shayin haye – I Sustain all things from water.' And yet we avoid water. The doctor says we should drink 5,6,7,8 glasses of water after each meal. So that should be 16 glasses a day… fizzy drinks – so harmful… So from the religious perspective we recommend having God-given water. Zamzam water, of course by all means, in it there is a cure, a treatment for illnesses, and other items such as olives, figs, black seed, and pumpkin. If we eat more of these then the illnesses we have we will see less of. I am not saying that after consuming these things, there won't be illness, there will be illness, but there won't be the long-term suffering of illness…A

good idea. Dates should be had 12 months. Muslims in Arabia at the time of the Prophet, on him peace, and the generations after him - even to this day – they eat rice and things less. Those of our people who are in Arabia in Ramadan they have seen how they get by only on dates. They get by in good shape and only later on in the evening they have a little to eat. (PII KII Imam AHK; Bangladeshi)

As for honey, that's mentioned in the Qur'an about its benefits, healing properties. And black seed is mentioned in the Hadith traditions for natural healing properties. There are also other foods mentioned. Generally, fruits and vegetables are really recommended… Such things do exist. And Islam does encourage it. Seek the advice of doctors and experts. As time passes different medicines and herbs come into recognition. Best thing to do is seek advice of experts, nutritionists, specialists in these fields. (PII KII Imam AAB; Bangladeshi)

One of the Imams makes a very clear distinction between what is an effect of tradition and what is related to religion in relation to health; a distinction that is very often lost with many people not understanding where culture / tradition stops and religion begins and vice versa.

Whereas in Islam … again it's just our community, not all Muslims. There's a big different between Islam and tradition. In Islam, so much emphasis is given on health and food that we consume, health and fitness. Really unbelievable. When you see the difference between Asian and non-Asian Muslim. The emphasis is there in Islam but there is so little significance. (PII KII Imam AAB; Bangaldeshi)

Highlighted a few times is the use of complementary medicines which impact on medical treatment of illnesses. Unfortunately health professionals tend not to be advised of these complimentary medicines therefore cannot take into account and in some circumstances patients are ceasing treatment for their medical conditions without discussing with their doctor.

Another karela juice syndrome, she smash the karela, take some juice, used to make it, dough type things, small, small, she kept them in the deep freeze, every night she take one out and in the morning empty stomach somebody told her take this karela and then it will help your diabetes, she thinks it's going to cure her, and ah, it's so bitter, you give me a million pounds and I would not eat it, empty stomach, so, this empty stomach, she take it and she goes to doctor by eight or nine, doctor test her blood and he find, she find this normal. It's not the doctors fault, she did not tell doctor she take karela juice in the morning, but the knowledge I have about karela juice, when Bangladeshi diabetes team came here they have tested karela with one group, fenugreek in another group, another group there is chirota all these, you know, and there fine, yes, bitterness does stay the sugar away for a few hours but it does not cure you, it does come back. OK, you can take karela but not as making it as is going to cure you, you have to take the medication as well (PII KII 07 JL; Bangladeshi; Community Project manager - Food & health)

Looking specifically at the notion of prevention there were differing opinions amongst the key informants as to whether this concept was understood within the community or whether there was still a large degree of fatalism as has been reported in previous studies. The overriding accord was that an increase in knowledge has been observed over recent years with far less faltalism being seen, however despite links between diet, body weight and health being made, the next step to prevention remains somewhat blurred.

I think it's because it's their lot, it's what Allah gives them, or whatever, and um, I don't think, and I think also, I still think that being heavy, overweight, is a status symbol in some areas and that, you know, it shows you're prosperous. And, so there's that double edged thing, ah, you know, you're looking well, you must be doing well if [trails off]. I think, well that's personal, but I think there's a, you know, it's about being prosperous and doing well in life. (PII KII 01 DT; Public Health Dietitian, National)

I think it's just slowly seeped in because there has been a sustained campaign by Doctors, professionals, media and local voluntary groups I think in terms of that. *Slowly [emphasised] now I see patients who do understand the relationship between diet and health.* (PII KII 05 TA; Bangladeshi; General Practitioner)

[I]t used to be difficult to make them understand but these days because now at least, there are a lot of prevention campaign going isn't it, say smoking or stay healthy, lifestyle issues, but at least people do believe now that you know, to become healthy, you have to reduce weight, at least do agree now, most of the people isn't it, you have to stop smoking, like all these things, so I think yeah, I mean you do physical activity, these kind of things, at least. (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

I think they'd have some concept of prevention but I don't think that things are, they'll understand maybe what they should do but don't necessarily do it I don't think and it's generally wait, let's wait until they're obese or they've got diabetes, because there's such a big problem in the diabetes that it tends to be wait until you've got the problem often, particularly as they've got family members that probably got diabetes they generally still don't. (PII KII 15 WP; Community dietetic manager)

I don't think with any of them it's looking at prevention to be honest, I think it's about self care which is slightly different … I don't think people are taking it as seriously as saying 'yeah, of got to start doing this now before I get it', it's generally people who already have or are on the borderline that are going 'OK, now I've got to look after it' … you've got so many factors in your life, um, you know, life happens to you when you're doing all this other stuff and then it's 'oh I'm diabetic or I'm borderline or I'm starting to get headaches or I'm starting to get, you know, yeah, people are busy living busy lives, you know they're active, they've got kids, they've got extended families all living together and I don't think they're going, 'oh I better avoid getting diabetes' is up the front there. (PII KII 12 SP; Community Project manager, Food & health)

Notably, many of the key informants remarked on the impact of so many family members having diabetes that many, and especially the second generation, believe developing diabetes think is inevitable and a consequence of age possibly despite the link between diet and health; more of an expectation than fatalism. For some members of the first generation on the other hand, the link may be obscured as reflecting on the experiences of their family in Bangladesh, historically, diabetes has not been an issue for past generations.

I don't know if it's a myth or not, … Bangladeshi's see diabetes as a part of growing old, I don't know whether that's true or not but in a sense … it might be that it's not perceived as, you know, the complication is not seen as something preventable …there may be a lack of, um, understanding of the, um, impacts of their lifestyle … it may be that you know, you smoke and eat unhealthily and don't do physical activity, and you may not have a, um, a realistic sense of the risks that, you know because it's only once for instance that you start getting angina that you suddenly go, ah no, this is, but it's kind of, if actually you could associate that behaviour at an early stage with actually this is going to effect you, it's going to effect your family, um, so if you can associate it with the sort of, the negative aspects of it, at a much earlier stage, then you may have an impact on behaviour. (PII KII 11 KL; Public Health, PCT)

[T]hey've missed out on that whole understanding on … they weren't even aware, you know, by sitting at home, this is what could happen to them, because it never happened to their grandparents, it didn't happen to their parents … I feel from my own personal experience that the second generation haven't really looked into the issue of diabetes, if they're not working in the area, um, most people just like yeah, my dads got diabetes but the link between diabetes and diet and things like that, if people aren't aware of that link, some people think it's like just natural for older people, you know, and then if it's so common that every, someone in every household has got diabetes, you become immune to it, it's not an issue, it's like it's expected, it's like we're all going to get diabetes but that's alright, mums got it but in terms of you know … There's a gap there, I think there's a huge gap there, that's not necessarily because people are ignorant, I think it's quite easy not to you know, when you're sort of growing up and you're getting on with your life, you might live at home with your mum and dad, but you're not going to work, you're not sitting there finding out about you know … we're all aware about weight management because it's there, it's everywhere and you can see it, if you scoff yourself for a whole week you feel it, so that's quite obvious but things like diabetes and heart disease it's long term and I think people can quite easily overlook that… [T]hey continue cooking the same way that they do for the rest of the family and they cook separately for themselves … the rest of the family are still on the same diet that gave them diabetes and heart disease. That is a massive problem … My mum uses my grandfather's case … who used to … smoke a sort of shisha type thing, and he survived until he was eighty something and he was fit and well. (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

Concern was also expressed that because the community was being bombarded with information about diabetes the volume of information would result in apathy.

My worry is, that we're going to just turn off because we keep hearing it, and if you hear things too much you just switch off, and I think there's a danger. (PII KII 01 DT; Public Health Dietitian, National)

With the probable increasing knowledge amongst the community, it was not necessarily felt however that this was resulting in any diet and / or lifestyle changes. Reasons proffered were lack of time or true understanding, or simply not activity thinking about the connections and making planned changes. As with the majority of the population often changes aren't made until there the negative consequences of not changing begin having a direct impact.
One of the practitioner informants has observed a lack of ownership of health in that many of the Bangladeshi patients seen don't feel that they can make changes to prevent something but rather they need to be told what to be done. They don't tend to proactively take care of their own health thus the concept of self-management that is now widely promoted may be a more difficult concept for this community. This is likely to link in with a point made by some of the Bangladeshi key informants, as previously noted, that for the older generation, diseases such as diabetes don't have a historical significance but for the younger members of the community it has become so common that it is inevitable which is not necessarily a fatalistic point of view but rather one of expectation due to lack of understanding as to why diabetes has become so prevalent.

There obviously is something different in terms of the attitudes between, you know, ill-health, disease and whatever, so I would have to think that there is a difference there. If you just look at the number of occasions people from the Bengali community come to the GP …there's a lot of, 'this is not my thing, this is you think, what are you going to do about it'…there does appear to be a slight difference in terms of ownership and who is, um, responsible, and um, again it could be just a language thing and a communication thing but there does seem to be much more of a 'you tell me what to do and I will do it '. (PII KII 09 ER; dietitian, weight management)

Others felt that the ability to proactively change ones life was very individual and a consequence of perceived control of their own health rather than something that passively happens to them. *[I]f someone has very high internal locus of control, then some of the government initiatives that come through would work. If someone doesn't and someone thinks you know, powerful other, or it's just fate, then … that's not really going to have an impact* (PII KII 12 SP; Community Project manager - Food & health)

[P]eople do need to be more in control, of their health but in order for that to happen, they have to stop being top down, you're not going to feel more in control of your health if you feel that other people have more power over your health than you do. If I feel I've got no control over my health, then exercising really not going to make a big deal, because I'm Bengali and eventually I'm going to get diabetes, and you're telling me so, do you know what I mean? (PII KII 12 SP; Community Project manager - Food & health)

It was also noted that there is a shift to people wanting to be more empowered in their health care and many Bangladeshi people becoming involved in the peer led self-management programmes being implemented within the Borough as both facilitators and participants. For some there is actually frustration that often the information to enable people to proactively make diet and lifestyle changes is not provided until they have already developed diabetes, highlighting an the issue of expanding the reach of various types of education programmes across the community.

[A] lot of the health guides also trained in self management, EXPERT patients or healthy moves, so they have all this awareness, so they talk to the group about it even in other sessions and so their like well actually yeah, I want to know more about that, um, especially self management tutors, they have a chronic condition so they'd usually be diabetic themselves, so when they start sharing the learning um, I think that's why people want to know more about it and people have started to become more empowered, there is a shift, um, they don't want to just be given their medication and be told there you go, they want to, they don't want to live their lives like that, and you know … especially women who are getting gestational diabetes, um, and I've just done a piece of work for maternity as part of the maternity review for the Tower Hamlets PCT and the women in there were going 'we didn't know anything about … gestational diabetes, the doctor only gave it to us once we had it, you know, I could have done something about it, they could have told me, what should I eat, what could I have done', um so there's lots of interest, people want to look after themselves. (PII KII 12 SP; Community Project manager - Food & health)

Despite the overall perceptible increase in understanding amongst the community in relation to obesity and diabetes, concern was expressed by some of the key informants that GP's in particular are continuing to focus on the treatment of secondary complications rather than focusing on weight management. Some of the reason for this being that weight management was the responsibility of the individual and not a medical problem but may have the effect of undermining the importance of the public health messages being filtered through the community.

You know we've already got GP's who are saying we'll treat the diabetes, we'll treat the heart disease, um but the obesity for peoples individual choice … they've decatagorised it as a disease, but yet they'll treat the conditions that are resultant of that. Even osteoarthritis, cancer, they'll treat those but they won't treat the root cause. (PII KII 01 DT; Public Health Dietitian, National)

I don't think even the GP's are taking it seriously that's the _ thing, GP don't say anything if your obese only isn't it. If your, Ok, if your … hypertension they might say OK do this, do this, take the medication, do exercise, but they never say anything if is only [emphasis] an obese person. (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

The general opinion amongst the key informants is that the health knowledge of the community is improving with a greater understanding of the links between diet and weight, and health, being no more or less informed than the general population. Despite this greater understanding however this has not necessarily been seen to translate into action other then once people have developed complications. The Bangladeshi informants were able to illuminate the current mixture of traditional and western health beliefs held by both the first and second generation members of the community, noting that with progress and our understanding of medicine and herbs improves then advice should be sought from experts in these fields. Where beliefs were incorporated, this tended to be in relation to their faith, such as the foods either mentioned or recommended by the Holy Prophet. A clear distinction was made however between religious faith and tradition, noting the issues within this Bangladeshi community were a consequence of tradition and not Islam which has a focus of food, fitness and health. There was perceived to be less of a feeling of fatalism towards getting diseases such as diabetes as had been seen in the past however there were differences seen between the generations. It was thought the second generation had a feeling of expectation to developing diabetes as they aged due to the large number of people within their community having the disease. For the first generation, the link between diet and disease was obscured by the fact that historically people didn't develop diabetes in their families. But while their was an increasing understanding of the links between diet ad the prevention of disease, there was concern that the medical profession continues to focus on the treatment of secondary complications. Further more, whilst it has been seen that many Bangladeshi's may lack ownership for their health, there is a growing number that desire greater empowerment, becoming involved in peer led programmes.

The socio-cultural variables revealed by the key informants have added depth to the knowledge provided by the community participants. These have crossed a wide range of themes from what it means to be Bangladeshi, traditions, customs and faith, revealing how these interact to effect food literacy, cooking practices and meal time structures, and highlighting some key issues for professional practice and policy.

7.0.2 Psychological

Views on the psychological variables were expressed across the range of key informants. A mix of themes impacting on behaviour and choices are outlined in this cluster including the impact of advertising, body image, status, convenience, ethical considerations, perceptions such as time constraints, and food quality.

The specific research questions being addressed in this section are:

- What are the attitudes and beliefs in the Bangladeshi community towards food and food behaviour?
- What factors contribute to the maintenance of *Traditional* food practices?
- What factors contribute in both groups to making healthy dietary and physical activity choices?
- What are the barriers to accessing healthy food options?

- What are the consequences of government policies and programmes to date?

7.0.2.1 Advertising

There was a unanimous belief that advertising has a significant impact on the food choices made within the Bangladeshi community although as with food knowledge this was not seen to be unique to this community. Furthermore there was a widespread belief that many companies, especially those selling foods high in salt, fat and sugar where deliberately targeting the young and those from socially deprived backgrounds.

[C]ertainly children … do need to be protected because they can't make choices, so through junk food advertising, you know pester power, research, you know all the, the National Heart Forum have done a huge amount of research showing that pester power does influence food choices and people, children are manipulated by these sort of complex,, sophisticated advertising, not only through the TV nut on the web. (PII KII 02 NM; Diabetes Policy, National).

Happy Meals, all these _ because McDonald target the young people obviously and I think we even think of every house, all the young children they love McDonalds, all this kind of food isn't it, because of their, I think their advertising is probably one of the factors (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

[N]owadays television and everything targeting children, because they are targeting children, so they show all lovely McDonald, ah, bit size and king size and elephant size and you can get a little toy with it (PII KII 07 JL; Bangladeshi; Community Project manager, Food & health)

I mean particularly some of the marketing aimed at kids, and the sort of, stuff that implies that unless you go the fast food route, cooking is just such a chore, I mean that I think is really bad, and there are a lot of people who never now learn to cook, so they believe that kind of stuff, I think that's awful. (PII KII 13 VS; Public Health, Regional)

[T]hey're not helping in terms of the way food is marketed, it's just you know, the size of portions, or buy one get one free type products and things specifically marketed at low income (PII KII 14 AN; Food Policy Dietitian National, Non-statutory)

I think we need to look at the retailers as well, where they're positioning the different foods in the shop and … how much each area has got with in comparison with like healthy foods compared to the not so healthy foods, how much of the shop in taken up by these different things…I think they're getting better, I think they're now starting, I think a lot of the major supermarkets are starting to offer like fruit and vegetables, choose one each week that are maybe going to be lower in price and all the buy one get one free that kind of thing, so I think they are improving but then saying that you'll still get the buy two packets of biscuits for the price of one so yes I think maybe they have gone up on the fruit and veg but they haven't reduced the other ones … it isn't the best balance really. (PII KII 14 CR; Community Dietetic Manager)

It was also noted that unlike the advertising of major companies such as McDonalds, advertising conducted by the government agencies or quangos tended to have far less impact.

I think the advert that's on the TV, with the FSA is pretty dire. Ah, I saw it on the side of a bus yesterday and I though. Ah, that's much better, seeing as it, cause it said, you know I can't remember what it said, but, er, it had much more of an impact on a bus than it did on a television. (PII KII 01 DT; Public Health Dietitian, National)

As with the whole of the population, advertising is thought to have an impact on this community, with particular concern of the perceived focus on the young and those from socially deprived backgrounds. Advertising of health messages was thought to be inadequate compared to that of the commercial companies.

7.0.2.2 Body Image

Body image wasn't generally vocalised as being an issue within this community although comments were made about the overall stigmatisation of people who are obese and the continued belief amongst many that rather than being a consequence of society, overweight and obesity is a consequence of lack of self control and personal responsibility. In contrast to, or possibly as a response to the rising moral panic surrounding obesity in the media, one of the health professionals noted that there appeared to be an increase in the number of teenagers striving to be thin and developing eating disorders.

Yeah, because we don't like it do we? It's like visually like we can't feel sorry for, people don't feel sorry for people who are obese, yesterday when people were watching TV, they weren't going 'oh, poor guy' they were going 'oh, that's disgusting, why has he let himself get like this, that's not right, I mean why should you do this to yourself, you're not living a full life', um, if you had a disability, people would be like ' oh, poor thing, that's not his fault', um and that's why, because it works it's more socialised (PII KII 12 SP; Community Project manager, Food & health)

I think the younger generation it's becoming more important I think, we've found that there's quite a few of the, particularly the young type teenagers and, have got quite, I think quite a few of them have got eating disorders and things because they're trying to be very thin and conform to that standard as well, so, but whether or not there eating healthily or just not eating. (PII KII 15 WP; Community Dietetic Manager)

7.0.2.3 Status

There were mixed views about whether food choices were made as a consequence of the need to maintain a certain status within the community with the main difference being a fine line between wanting to impress others with what you are able to provide versus wanting to please

others out of respect. The key informants that were also second generation Bangladeshi's tended to believe that status and concern about standing within the community more prevalent amongst the first generation. The women also felt that this was more of concern to the men within their community.

[I]f it is only two, my husband like to have three item, one bhaji, one fried, one curry, and you ah, if anybody comes he will really want about six, just suddenly. I haven't got anything to give you, oh, it's just a little food, poor, very poor, poor ah portion you know, it's just four item, four does not mean four item, it is fish there, everything there but he will say it is not enough, not enough … like we are poor (PII KII 07 JL; Bangladeshi; Community Project manager, Food & health)

The most bizarre thing happened when I got married, my in-laws said oh, we don't have vegetables, we just eat meat everyday, and I though what's that got to do with it, it was still this old fashioned culture that you're rich, rich people would have meat and rice, poor people would have vegetables and fruits (PII KII 10 MK; Bangladeshi; Community Nurse)

I think the other thing that influences that is perceptions, um, you have, um, especially amongst the more uneducated and, um, people have this thing about pride and prestige which is based on you know, what we cook and you know, so it's like, we can't be cooking, if people come round, we can't be cooking, giving them cuts of meat that they're going to think, they're a bit tight with their money and look what they've cooked, and just things like that. (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

There isn't anything like that really. When guests come we do have to put out something nice don't we? WE have to maintain special customs, you do understand don't you? If you go to a party, party food is different to home food isn't it? It's like that isn't it? Guest come far and wide, they do need to be treated nicely don't they? (PII KII SMA Elder; Bangladeshi)

7.0.2.4 Convenience

Convenience was once again seen as a major influencer on food choices; particularly for the overwhelming intake of take-away foods by the second and younger generations of Bangladeshi's in Tower Hamlets.

[I]t's just cheap, accessible, quick, instantly filling, obviously not afterwards, food and that's why it's so popular, unfortunately. (PII KII 02 NM; National Diabetes Policy)

[Y]ou don't have to spend time for even cooking in the microwave takes time isn't it, so are all readily available isn't it , they would rather go to kebab shop or fried chicken shop or McDonald or whichever, buy those, or even go to pizza isn't it, so … it's convenient … (PII KII 06 NC; Bangladeshi; Community Project manager - Food & health)

Of concern was that simple snacks such as fruit were not seen as convenient unless the fruit had been 'prepared and presented', by cutting and peeling. Simply having the fruit available was inadequate incentive. For the young men in particular it was felt that there was an expectation, much like their meals in general, that the fruit would be provided in this way; they have learnt to be lazy by the mothers.

[W]hereas fruits will get bought and it will be left in the fruit bowl so you'd be expected to come and take … but it doesn't happen, most families that I've seen it doesn't naturally happen, you have to get it, cut it and slice it, put it in front of them, here, eat it and that's just one of the things that doesn't happen, so, and what I find is that older generation, what they tend to do is, they'll get mangoes and things and slice it up and put it in front of everybody, but when it comes to apples and p[ears and oranges, they won't do that and I think why do they do that? It's as though tropical fruits are much more better for you, much more special than these, you know, everyday fruits, and I think that's probably one of the things why the younger generation don't think they need to actually have fruits because it's not offered to them. I think, there's still that culture of laziness where you think 'my mum will give it to me and then I will have it'. (PII KII 10 MK; Bangladeshi; Community Nurse)

In contrast to the second generation however, one participant noted that for the first generation, there was convenience in maintaining traditional cooking, due the assistance of family members as a consequence of living in an extended family environment. Convenience is relative.

I think the second generation it's the chicken and chips thing, its… price but it's stuff that they know and it's convenient, all these things. Um, saying that, lots of Bengali families um, who don't eat the chicken and chips and stuff like that and they cook at home, but it's the way that they're cooking it, so then it's about convenience, because then it's convenient for them to cook 'cause it's extended family, so, you know, everyone's cooking together, or like the women are cooking together or they take turns (PII KII 12 SP; Community Project manager - Food & health)

As with the community participants, convenience was thought to be a strong driver for the food choices being made, especially amongst the second generation who are becoming time pressured. For the young men, there was further concern about snacking habits and the perception that fruit wasn't a quick choice unless it has been 'prepared'. The first generation are more likely to see the benefits of having an extended family to share the burden of meal preparation.

7.0.2.5 Emotions

Various emotional factors were identified by the key informants to have an impact of diet and lifestyle such as the confusion as a result of not being able to identify with new foods and therefore avoiding foods and limiting choices as a consequence of not knowing what foods to

purchase and how to prepare them. This was of particular relevance to those communities or areas within communities where traditional foods are not readily accessible.

I remember being told by a health visitor about one woman who was pregnant and really anaemic because she was virtually eating nothing because she was so worried about what she was eating, so I think there's a thing about identifying foods, um, yeah. (PII KII 01 DT; Public Health Dietitian, National)

The value of working with the aspects of health that are most likely to have the earliest impact was also highlighted, with the hope that by having this early impact on one area of a persons lifestyle then this may then have a knock on effect for further changes once people start to feel that they can control their own health. Physical activity versus dietary change was seen as having more immediate positive consequences as something was being gained rather than lost.

I think once they do take it up, it seems to be a motivator in itself because people seem to be able to um, take a, get a positive, um, feedback, from a relatively small amount of additional exercise, where as I don't seem to get that when I'm talking about food and weight, there needs to be a big change in weight before it seems to motivate people whereas with exercise I think you somehow or other they seem to be able to take motivation from small improvements that occur (PII KII 09 ER; Dietitian – weight management)

I suppose I would say, if I were saying I'd probably say it's seventy five percent constrained, and twenty five percent within that people probably could make different choices if they if they really, really wanted to, but I also know if you're feeling a bit down, and a bit knackered, a bar of chocolate is what we reach for rather than a bike ride. I suppose the other bit for me that's quite interesting is, if you get people to eat differently, it's quite a long time, for some people, before it starts to feel different, you know, they don't immediately shed pounds and fit into a size twelve and all the rest of it, if you get people a bit more active, you might, in my experience of talking to people about it, they do quite quickly feel better, so there's something about balancing early messages. (PII KII 13 VS; Public Health, Regional)

The importance of creating an environment that people want to be part of, with adequate facilities, was seen as extremely important if we are to have any chance of increasing participation in physical activity or involving people in health services. This aspect would also seem to come down to a feeling of self worth in that people may not feel that they are respected or valued if they are expected to endure inferior facilities in comparison to what is available for people who live in more affluent areas.

I think we've got leisure centres, they're not fantastic, I haven't been to all of them … but I wouldn't imagine that we had less than anywhere else. It might just be that they're not as pleasant to go to as other places. I mean like for instance I, my family is from North West London so it's like my local swimming pool there was like _ which is really, it's you know quite affluent … it's a lovely pool in a really nice area, you sit there and it's very nice and the thing I've

noticed about leisure centres in areas of deprivation is they're not, they don't seem to be, um, looked after as well as those in more affluent areas … like the ones in Windsor, just the public pools are really nice whereas here they don't really impress me very much (PII KII 11 KL; Public Health, PCT)

[W]hen SureStart was being set up in '97, '98, '99, it was one of the things that Tessa Jowel was brilliant about was saying that I don't want SureStart set up in porta-cabins, I want nice buildings when Sure Starts and it's a place where people would be proud to go to, not the place you go to as a place of last resort. And there was quite a sense of, oh god, that's going to be very expensive; do we really have to do that? But actually you know, it was a brilliant, she was so determined. [P]art of it was about people's self-esteem you know, if you're looked after in a leaking, dirty, shacky sort of place, then that's how you feel about yourself. (PII KII 13 VS; Public Health, Regional)

The emotional factors seen to impact on food and lifestyle choices were varied. For food, confusion with respect to new food choices was seen as a barrier to trying new, non-traditional foods. Also, food was often seen as more difficult when changing habits, unlike physical activity which may have a more immediate impact. Poor facilities for physical activity were however seen as a deterrent with people likely to feel low self worth, compared to say those working in more affluent areas.

7.0.2.6 Ethical considerations

The key informants did not feel that the Bangladeshi community took ethical concerns, such as fair trade or free range, into consideration when making their food choices. This goes against a strong trend in the wider UK population. Again an exception was seen however with respect to the preference of organic produce however this was in relation to traditional farming habits and beliefs rather than concern for the environment per se'.

No, fair trade and that not at all. It might in the future but at the moment, no… fresh food, reasonable price and, that's the most important at the moment. … that ethical thing doesn't really kick in. (PII KII 04 LC; Community interfaith co-ordinator)

[B]ecause people like the idea, because back at home, people take all organic you know, because everything used to be organic (PII KII 06 NC; Bangladeshi; Community Project manager - Food & health)

Concern has been expressed by one of the Bangladeshi key informants that while there should be increased access and availability of traditional foods that this should not be at the expense of local Bangladeshi businesses. Supermarkets should supply pantry items for example but not encroach on the market of speciality stores supplying traditional foods unless these stores are not present within the community. In this circumstance there is a moral debate between convenience and what is best for the community.

[B]ut if supermarket started to sell again Bangladeshi fish and things probably they will kill them but I think that should not happen really 'cause you know it's just like Lidl or some people selling Bangladeshi food and there should be separation you know… still you know I think otherwise there will be more unemployed, more chaotic, more chaotic problem so I think what they are doing is good but they should not take over all the Bangladeshi, Indian you know, … it's not OK for somebody to compete with Bangladeshi, then there will be unemployment created, it's not like, they're just doing there job … but for other things it's OK, like buying cornflakes, and I used to see corn flakes and some mother used to say cornflakes _ but that's what they're providing … but for Bangladeshi fish, Bangladeshi choice, three are the other shops doing it so supermarkets should not compete (PII KII 07 JL; Bangladeshi; Community Project manager - Food & health)

7.0.2.7 Health consciousness

Various thoughts were expressed regarding whether or not the Bangladeshi community displayed a degree of concern for there overall health and wellbeing. For the second generation once again the highly visible intake of take-away foods was seen as evidence for a lack of conscious concern for their health although this wasn't necessarily seen as ignorance or deliberate neglect but rather health not being a focus of busy day to day lives.

*[I]f you look at the young people you don't get the impression that health is at the forefront, it's more, it's the sort of social element to it or to peer kind of conformity maybe, so you see a lot of, obviously you know, you see a lot of young people in the sort of kebab shops, you know, there's huge plates of chips, you see the kids coming to school, you know, in the lunch hour coming back with boxes of chips and chicken, so you know, ah, you don't get the impression that health is really at the forefront …(*PII KII 11 KL; Public Health, PCT)

There's a gap there, I think there's a huge gap there, that's not necessarily because people are ignorant, I think it's quite easy not to you know, when you're sort of growing up and you're getting on with your life, you might live at home with your mum and dad, but you're not going to work, you're not sitting there finding out about you know … we're all aware about weight management because it's there, it's everywhere and you can see it, if you scoff yourself for a whole week you feel it, so that's quite obvious but things like diabetes and heart disease it's long term and I think people can quite easily overlook that. (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

Not all respondents felt that poor choices were being made without some degree of consciousness but rather expressed concern that some members of the community were simply lazy and had disordered eating habits. One of the female Imams noted that it was acceptable to

take pride in your appearance as long as this was done within the rules of purdah[63] and it was done for yourself.

In our community mothers just let themselves go after they have had children. They don't care about themselves anymore. I really don't like that at all. As long as you are alive why not keep yourself [smart] – there is nothing wrong with that if you do it in purdah. Keep your body strong and healthy. If you put on weight then lose it, don't let your stomach get big. There is no reason to let your body go. You don't feel good about yourself and it doesn't look for others either. I always ask the mothers where is the problem in staying healthy and looking smart? Even if there aren't twelve people looking at you, you have to consider the way you feel about yourself. And children learn from their parents. I can't stand it when people are careless about their health, and you see it so much in the mothers in our community. You just have to be a bit careful and you can manage your health. Its just laziness and chaotic eating. (PII KII Female Imam LN)

7.0.2.8 Parental Control

As with the general population, lack of parental control over their children's food choices was a concern for some families who don't have the skills or coping mechanisms in place to manage their demands and as a consequence give in to them.

[T]hey can't cope with children's demand, I don't want to eat vegetables so your not going to eat vegetables, scream, cry, so at the end of the day mother will give up, OK, eat whatever … go to outside get some fried chicken because mother, after, what it is, mother wants her child to eat something, he did not eat at school, he did not eat anything, he left school without breakfast, you know coming back from school he had a little, so he must eat. He must eat, if not eating become ill, he lose his, ah, healthy bodies, all these things, he must eat. (PII KII 07 JL; Bangladeshi; Community Project manager - Food & health)

7.0.2.9 Perceptions – time and safety

Perceived lack of time to choose and prepare healthy food options was a common theme although there were opposing views as to whether this lack of time was a reality, an excuse or an accepted excuse within current societal norms. For others limited time meant compromising on the way meals are prepared but this did not have to mean that the alternatives were a poorer health choice, just not necessarily a traditional one.

I'm fed up of hearing about people not having time to think about what they're eating and cooking. I don't believe that, um, I recognise that single parent families and some ethnic minority groups who'll, who maybe working harder time slots and things like that, or have more

[63] Purdah is the practice of preventing men from seeing women. This takes two forms: physical segregation of the sexes, and the requirement for women to cover their bodies and conceal their form. ... **en.wikipedia.org/wiki/Purdah**

than one job can find it difficult, but actually, it's about perception of how important it is, and that comes down to society norms again. (PII KII 08 PR; FSA – nutrition division)

I mean in some ways I think the choices around activity are more interesting than the choices around food, I mean if you live in a food desert on a low income and you don't have a lot of time to be creative with vegetables, then actually, that is very hard (PII KII 13 VS; Public Health, Regional)

No! I don't like to spend time cooking. I spend as little time as possible – just as much as is needed. There are some people who spends ages on preparation, shopping their onions very finely – I don't have time for that. They chop their vegetables all nicely – I can't do that. I just do it any old way – as long as it tastes good. If you cook everyday then you don't have time for all this. I have made sure that I spend as little as possible time on cooking. Putting the spices in the oil and slowly frying them off – I can't do that. (PII KII Female Imam LN)

Fear for personal and children's safety was another common perception, but particularly amongst the non-Bangladeshi key informants. Tower Hamlets is perceived to be a dangerous environment by both those that lived and/or worked in Tower Hamlets and those that had a general knowledge of the area; certainly not a place that you want to walk around after dark. With respect to the safety of children this was more centred around that they may be being taken or attacked by paedophiles which reflects the general rising fear in society as a whole.

I think so, fear of attack … keep to your own community otherwise if you venture out probably fear of attack or reprisal, especially sort of Tower Hamlets, we've got this sort of gang culture as well, um, I wouldn't feel safe walking there (PII KII 02 NM; Diabetes Policy, National)

I think the feeling safe walking, because people do say that a lot. Now you don't know individually if that's just … they've convinced themselves that it's, I don't know, that's a tricky one, but it comes up a lot doesn't it around here. (PII KII 09 ER; Dietitian, weight management)
I came from … Oxford … but before I was also living in Slough next to Windsor, and it sort of struck me like … living in Windsor, you want to go jogging you just go jogging in the park, it's lovely … you don't think twice about doing it in the evening … whereas in Tower Hamlets you don't really want to go out jogging in the evening (PII KII 11 KL; Public Health, PCT)

That's partly because the children aren't able to go out now because there is this fear that they're going to get kidnapped or, I think that's different to the way that we used to think when we were younger as well. (PII KII 15 WP; Community Dietetic Manager)

There again you've got to look at the whole thing, I heard something on the radio the other day saying you know, children are not being aloud to play outdoors 'cause of over anxious parents and, so you've got loads of different influences, green spaces, over anxious parents … fear of crime, um, so it's a collective thing isn't it. (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

7.0.2.10 Food quality

The Bangladeshi Key Informants unanimously agreed that quality was assessed by freshness amongst the community. This is reflected in the choice of fruit and vegetables, where they are purchased, and the avoidance of frozen and processed foods. For the first generation this is strongly influenced by their personal history of coming from a rural community and having fresh produce available on a daily basis from either their own farms or the local market.

I think it would be freshness, taste, quality; I mean they do moan about that down there, if things are not to the right standard they'll say, oh, they'll leave it actually, they won't buy it. So they do look for that freshness, um, vegetables do very well, um, and, also there's fruit, often there's a couple of ladies who'll just come and buy, buy box loads of fruit to take for all their family, and they make _ at home and things like that. So um, I think, I think they do, I think the freshness is important (PII KII 04 LC; Community interfaith co-ordinator)

Whitechapel market you know but they are not really very fresh fruit because they sell it cheaper, one pound a whole banana, but you see they are already rotten and they're already gone, so they're losing their values (PII KII 06 NC; Bangladeshi; Community Project manager - Food & health)

That's another thing in Bangladesh, we never use any frozen food, people will not eat any frozen food they say it's tasteless [emphasis] we whatever chicken of beef we eat it have to be slaughtered that day and then we eat, it was all freshness. (PII KII 07 JL; Bangladeshi; Community Project manager - Food & health)

[T]he core group of people who'll continue coming to the food coop will comment on things like quality, freshness, ability to keep fruit and veg at home for the whole week (PII KII 16 SR; Bangladeshi, Community Healthy Eating Team Lead)

Let me tell you: over there you get absolute fresh. The fish we have, we get there and then, while it's still writhing. That's the difference. Here it's fridge fish. There is a difference isn't there between fresh fish and fridge fish? That's the difference, nothing else. It applies to everything…Let me tell you: the Bangladeshi food is good. But the way that we get everything here, you can't get that in Bangladesh It's the freshness that makes Bangladeshi foods superior. The fish we have here is fridge fish. There you get it straight from the lakes or the ponds. (PII KII SMA Elder; Bangladeshi)

7.0.2.11 Taste

Not surprisingly taste was considered to have a significant impact on the food choices made, whether it is food cooked within the home or take-aways options. Taste preferences also apparently had a significant influence on the change from diet with the predominant protein

source as fish to one of chicken or red meat when Bangladeshi fresh water fish weren't readily available.

[K]ids don't like the school meals, they walk out and get what ever they want. (PII KII 01 DT; Public Health Dietitian, National)

[S]alt water fish they don't like it, so, they went for beef which is easily available, they say that's how we started taking meat. (PII KII 06 NC; Bangladeshi; Bangladeshi; Community Project manager - Food & health)

The influence of the taste preferences from family members was a major consideration in cooking methods, so even if people may be aware that certain cooking styles are unhealthy, such as being high in fat, there may be reluctance to make changes to recipes as it is perceived that the family won't like the changes, especially there are very high expectations regarding food taste.

You'll see them and you're very aware that they like to add oil in cooking because it makes it taste nicer and you suggest reducing the oil and fat but it's still all that 'well it tastes nice', it's really not, it's more about the taste, but still it's a big family food so they know the rest of the family won't like it, that kind of thing I think. (PII KII 15 WP; Community Dietetic Manager)

[P]eople have quite high expectations of food and taste, and when you're compromising with, how much fat they put in food, you have to compromise on taste, um, but it's just that alternative, it doesn't have to taste, you know, it's not going to taste as rich and nice, we all know that, um, and I think this is what happens, so I see like my brothers like 'oh, it doesn't taste as nice though does it? It's healthier but it doesn't taste as nice' (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

7.0.2.12 Western image

The influence of Western Image on choices was perceived, as with a number of the themes, to affect the community in a variety of ways. Unlike those interviewed from the Bangladeshi community itself, some felt that traditional foods were sometimes seen as inferior to western foods by some ethnic minority groups. While others felt that the influences on food choices for younger members of the community come from a variety of cultures, including their own.

[W]hat I found within ethnic minorities, and they want to eat the Western food and their parents want to eat the Western food, they don't see that their own traditional food is, er, you know as good as the Western, so you know there's an element there. (PII KII 01 DT; Public Health Dietitian, National)

[T]here not always influenced by, even sort of the younger communities, by western, not always by western cultures, there's still a huge influence from their won culture on food choice. (PII KII 02 NM; Diabetes Policy, National)

The impact of Western food culture on traditional food culture has led to some confusion however in the community with some feeling that they have received mixed messages that have changed over time with respect to what is considered to be a healthy choice.

[W]e've come from this old, you know, old fashioned ways from back home into this western world where we've changed these things to the western way and now you're telling us to go back to traditional stuff and they find it, and that's where the younger generation are finding it hard to implement (PII KII 10 MK; Bangladeshi; Community Nurse)

7.0.3 Physiological

For this theme, hunger was noted as having an impact of the food choices made, and this was in relation to the intake of take-away foods. Genetic predisposition was also acknowledged however this will be discussed in section 7.3, the 'causes of obesity and diabetes' in response to the interview questions relating to the key informants knowledge about diabetes within the Bangladeshi community.

Research question addressed:

- What factors contribute to the maintenance of traditional food practices?

7.0.3.1 Hunger

A couple of the Bangladeshi key informants noted the impact of hunger on food choices; both traditional and western. For the youth, the specific issue was snacking on fried chicken on the way home from school which was felt to have a large impact on the decline in sharing the family meal in the evening. In relation to traditional diets, the importance of rice was again noted as an extremely important part of the meal in order to feel satiated.

[W]hen they come back home, in the mean time they've finish their box chicken, so they don't, they're not hungry isn't it, so, maybe the mother cook something like, at least fairly healthy like the rice, fish or vegetables, but then the mother complain that oh, he is not taking, or she is not taking the dinner because already the young person is full up isn't it. (PII KII 06 NC; Bangladeshi; Community Project manager - food & health)

I _ to understand why, you know, just eat a pizza and go to sleep but he'd be hungry like middle of the night or something for his rice (PII KII 10 MK; Bangladeshi; Community nurse).

7.0.4 Environmental

Broader environmental considerations, such as the influence of the retail landscape, access and availability, and economic considerations for the Bangladeshi residents of Tower Hamlets were explored with the key informants to gain their views on the potential effect on food and lifestyle choices within the community.

Specific research questions being addressed in the section are:

- What are the potential effects of educational levels, social class, access to housing and employment status?
- What factors contribute to the maintenance of traditional food practices?
- What are the economic considerations when making food and physical activity choices?
- What are the potential environmental influences on food and physical activity choices?
- What are the barriers to accessing healthy food options and participating in physical activity?

7.0.4.1 Access and availability

The main concern expressed by the majority of the key informants, with respect to the influence of access and availability of food was that of the perceived over-supply of fast-food outlets, the number of which are rapidly expanding across the Borough and often located close to schools. This was a phenomenon that was noted, by those working outside of Tower Hamlets, to be occurring in other deprived communities across the country.

[O]ne of our schools that's in a very deprived area, multi-ethnic, I think on this particular area of the city has 23 different languages, it has a pizza bar, a burger bar, umm, a kebab shop, and, er, probably something else, just around the corner from the secondary school and the kids are all allowed to get out of school at lunch time. (PII KII 01 DT; Public Health Dietitian, National)

[T]hey're growing up like mushrooms, if you walk up Whitechapel road to Mile End, you'll see there's ten or fifteen of those fast chicken, all this oily, and children, I find children going quite a lot, buying this cheap, if you go even to Brady St., the one near the school in _ they've got this Perfect Fried Chicken and access to it all the time. (PII KII 05 TA; Bangladeshi; General Practitioner)

I can give an example, maybe this is one of the factors actually which we have been trying to raise, you know if you walk around Whitechapel, one mile around Whitechapel you see a hundred fried chicken and chips shop, one hundred, and when the school finishes each school child will have a box of chicken (PII KII 06 NC; Bangladeshi; Community Project manager - Food & health)

I don't think there's an excuse for not buying fruits and vegetables here, um, the barrier that I can see is that there's too many halal fast-food shops available… Too many PFC's, pizzas and

halal take-aways, there's so many available that you can afford to be lazy, not one night a few nights and it's also really cheap. See, when I was talking about South London we hardly had it, we hardly had any of those halal PFC's so we wouldn't … just go without, you know, would rather take a sandwich, take it from home. Whereas here, it's so widely available and it's so cheap that you can afford to get a take-away and the families happy to have all this grease and spice [laughs], so you know what I mean. I think that's the barriers, I think that's the only barrier, they've got too many unhealthy food shops available, I mean I don't know, every five to ten yards there's a PFC available, whereas if they had more um, salad shops you know, probably _ have done a lot better, would be a lot better for the people as well. (PII KII 10 MK; Bangladeshi; Community Nurse)

[T]he Tower Hamlets environment, everything is kind of … directing you towards unhealthy food choices, where ever you go (PII KII 11 KL; Public Health, PCT)

The younger generation with them it is becoming popular day by day – you can see by the new takeaways and new PFC's and the new HFC's opening on different streets. They are consuming fats foods more and more and it's becoming very common. From experience when we were at school you didn't see many of them around. Nowadays you'll see on one street three or four of them all competing against each other. You'll see after school, youngster… all full up. (PII KII Imam AAB; Bangladeshi)

The limited number of supermarkets within the Borough was seen as a problem for those without access to cars, for while some felt there were other shops, or the markets available the quality at these was frequently poor and at times the cost prohibitive. Furthermore, even where local corner stores supplied fruit and vegetables, the majority of the stock was thought to be high fat, salt and or sugar convenience foods and snacks.

[W]hat's available in the local community as well, you know, people haven't got cars, you know, you're just going to be influenced by … stores in the local community and the shops. (PII KII 02 NM; Diabetes Policy, National)

[O]nly one Sainsbury in here, Whitechapel, but whole Tower Hamlet, so sometimes, you know, mmm, people if, without car, is difficult to come here to do the shopping. (PII KII 03 RY; Bangladeshi; Community Nutrition Link Worker (NHS)

I think it would be nicer if there were good quality local things that, but saying that, there are quite a lot of big local shops down Bethnal Green Road that have a lot of fruit and vegetables and that's why in some ways, the food co-op wasn't as popular as it could have been, mainly because there are places to go 'round here but there are certain other estates where there's just not anywhere at all. (PII KII 04 LC; Community interfaith co-ordinator)

I think … everyone mentions chicken and chips and ah the take away places, there's so many and even places where you go and get your groceries, there's no like green grocers, well there

are some but there's not, the majority are your little corner shops which sell majority like biscuits and high quantity of high fat, high sugar foods and convenience foods and very little fruits and vegetables and people in Tower Hamlets can't always get to supermarkets, they don't all have cars, it's not practical to get a bus out to the big Tesco's or out to Sainsbury's for all of them, um so they end up relying on these little shops but maybe if they have got fruit and veg it isn't as fresh as it could be, I know supermarkets are not necessarily fresh but there are some of the shops that we've been to that have got fruit and vegetables that are going, quite sort of decaying (PII KII 15 WP; Community Dietetic Manager)

[W]e've got a food coop in Shoreditch which is a real food dessert, there's only a couple of corner shops that sell a whole range of fruit and vegetables, really expensive, um, the range isn't wide, it's … quite old, you know, you can't blame the shopkeepers 'cause the loss of fruit and vegetables is quite high, so, they can't have a wide range of, you know, just _ most of it. (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

Supposed lack of access to healthy snacks was put forward as a reason for the greater intake of unhealthy options such as biscuits and snacks, but more specifically the manner in which the poorer choices as often offered or requested whereas fruit is simply passively left in a bowl to the side. This was recognised as a general trend as well as one within the Bangladeshi community specifically.

[T]his isn't specifically about anybody in your community but um, one of the things that kept coming up for me is that we make, we tell people to make fruits and vegetables available, we put fruit in a bowl on the sideboard, we put crisp and biscuits and things inside a container in the cupboard, we encourage the children to be polite when asking for things and we reinforce that by allowing them if they ask for something politely we give it to them. So, can I have a sweet, can I have a biscuit, can I have a packet of crisps? And I have to actively go, I have to actively say yes, go to the cupboard, take it out of whatever container it is, and allow them to have it. But you actively allow them to do that because they've asked nicely. The fruits freely available, nobody eats it. (PII KII 08 PR; FSA – nutrition division)

Everything else in our culture it's like samosas you would make and you'd offer it to someone, whereas fruits will get bought and it will be left in the fruit bowl so you'd be expected to come and take and it, but it doesn't happen, most families that I've seen it doesn't naturally happen. (PII KII 10 MK; Bangladeshi; Community Nurse)

The increase in availability and access to traditional Bangladeshi foods such as fresh water fish and vegetables was recognised as a significant change since early migration. The initial lack of availability to Bangladeshi fish was given as the reason for the substantial initial increase in meat intake within the community, while the more recent increase in availability is conversely being seen as one of the reasons for the changes back to a more traditional diet with its higher fish consumption.

Another change why happen I think lots of … fishes are coming from Bangladesh as well, so in local shop there are lots of different kind of fishes now available you know, so that's another reason people are, er, eating more fish than meat. (PII KII 03 RY; Bangladeshi; Community Nutrition Link Worker, NHS)

[T]hose traditional foods are not available, those fish, the problem is, you know, back in Bangladesh, you used the sweet water fish not the salt water fish, but here is most of them is like the sea fish isn't it? Which Bengali's do not like it because of the taste, so, sweet water fish wasn't available and salt water fish they don't like it, so, they went for beef which is easily available, they say that's how we started taking meat. (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

[I]n London they've got everything, they come out of their house they find everything at their doorstep for Bangladeshi fish, Bangladeshi vegetable, Bangladeshi fruit and everything. I think people are eating more now and because it is more choice also now like Chinese, Malaysian, Turkish, um Pakistani and lot [emphasis] of fried food, fried food being eaten now (PII KII 07 JL; Bangladeshi; Community Project manager - Food & health)

I was saying to my mum the other day, completely oblivious, how come we don't eat sardines no more, I said, I grew up on sardines, and she said, because when you were growing up there wasn't any other fish that we could eat, it was sardines and mackerel, and I was like oh, she said now we've got all the fish shops and they're everywhere (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead).

The traditional foods continue to be mostly available in Bangladeshi stores and markets rather than supermarkets.

You get fish for example in supermarkets but not the types and varieties we traditionally have. (PII KII Imam AAB)

The limited availability of healthy options in Tower Hamlets was the dominant concern, especially the overabundance of fast food take-away outlets, including close to the schools. This mirrored the concerns of the community itself with everybody feeling that action needs to be taken to reduce the numbers and increase the options available. The limited number of supermarkets was seen as an access issue for those without cars, but more so as it was felt that many of the markets stocked poor quality produce and the local stores had limited healthy choice options. With regards to the availability of traditional Bangladeshi food, this has improved considerable since the main wave of migration which has resulted in some changing back to traditional diets reflective of those in Bangladesh, rather than the meat dominant version seen in the UK.

7.0.4.2 Affordability

There were mixed views as to whether healthy foods are in reality more expensive than the less desirable alternatives which is indicative of the Bangladeshi community and the wider population both. Many of the participants felt however that items such as lean cuts of meat, supermarket own healthier options, and organic foods were indeed more expensive. There was also the perception that when healthier options are affordable it is because they are of inferior quality, such as second grade fruit and vegetables which many believe is what is available at the markets.

And meat, there are certain portion of meat is good for you like lean meat, but it is expensive, lean part of the meat like your leg meat and things is expensive, so you go for shoulder of the mutton, you eat all the fatty part. (PII KII 07 JL; Bangladeshi; Community Project manager, Food & health)

It's, it's interesting and you know, if you go and buy an apple, I'm told actually, I don't know where it was, in Leeds actually, somebody reckoned that you could actually buy an apple and a banana and a pear and be ten p each and I couldn't actually understand where they were shopping. If you buy fruit, the cost of fruit is actually relatively more expensive than confectionary, um, and you know, that's because it's cheap to make. (PII KII 08 PR; FSA – nutrition division)

I've been to supermarkets, like the 'Be Good to Yourself', those things are a lot more expensive than the normal average Sainsbury brand which is a lot more high in fat and salt, so yeah if they did, most definitely. (PII KII 10 MK; Bangladeshi, Community Nurse)

Well that the great thing about, you look at that market, and that market is always packed um, and you can buy, you know, those little bowls of, it's just a quid, and people are always buying it. Um, now, if that was more expensive, you know like a farmers market, people wouldn't buy it. So definitely, healthy food needs to be cheaper, more accessible (PII KII 12 SP; Community Project manager, Food & health)

[A]pples are quite cheap anyway and bananas and fruit aren't they? I think it is a fallacy that we tend to think they're really expensive but you can buy a bag of apples for probably a pound, a bag of chocolate bars is probably going to be a couple of pounds (PII KII 15 WP; Community Dietetic Manager)

Yes, food prices are rising all the time. A lot of people can't afford to buy organic food, even if its not organic, quality food is more expensive. So sometimes people are forced to buy low quality food. (PII KII Female Imam LN)

Affordability was also considered to be relative to the other priorities of individuals. This includes what is considered to be a core and therefore essential component of the diet;

perception of nutritional value; number of people to cater for and cultural significance. With respect to the later in particular, a key informant involved in food cooperatives noted that many of the people in the Bangladeshi community, particularly the first generation, choose to have Bangladeshi vegetables which are usually considerably more expensive than western alternatives.

[T]he price of the healthy food expensive, you know, is usually expensive, so a lot of people can't, even if … those fruits, say if you go to Sainsbury you see maybe pound of apple and chicken is the same in price isn't it. So like for him, maybe the chicken is will kind of provide the food for the whole, like a lunch isn't it, but an apple is like a side dish isn't it, it's not a food actually, they don't see it as food isn't it. (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

I think it is a real factor, cost, but I think it's also about how people buy food and the kinds of things you buy as a one off or you know, you go to the take-away and you buy a meal, um, compared with going to do a big shop, where you've brought your fruit and veg and that's contributing to that large amount of money that you've spent. It's about where and how you buy food … that influences how people think about what relative cost and value of things are… (PII KII 14 AN; Food Policy Dietitian, National - Non-statutory)

[O]ne of the things we notice at the food coops is, Asian food is really popular, we can't actually provide as much as they want, it's a lot more expensive than your, you know um, cabbage and courgettes and things like that, twice, three times as much more expensive, and that is the acquired taste, um, so meeting that acquired taste is really important, um, you've got cheap alternatives and you see second generation Bangladeshis that will come to the coop and they'll replace dudi with squash, squash is like a lot less, it's cheaper (PII KII 16 SR; Community Healthy Eating Team Lead)

I think the key barrier is um, I don't think it's necessarily affordability … because the money people spend on their Asian veg, of you can make a conscious decision to spend that much, affordability's not the key issue …affordability kicks in if you've got large families, so like in one hand your being told like five portions a day, if you've got five children how do you give them, how can you afford to give them five portions a day (PII KII 16 SR; Community Healthy Eating Team Lead)

The cheapness of take-away foods such as the fried chicken and chips was thought to be a significant factor in the high intake amongst this community, especially in terms of frequency, which has in turn had an impact on the proliferation of outlets.

[T]here's so many available that you can afford to be lazy, not one night a few nights and it's also really cheap (PII KII 10 MK; Bangladeshi, Community Nurse)

[S]omebody says you know, McDonald's is actually a very cheap way of feeding children when you don't want to cook something that evening at home, and you couldn't actually go into a restaurant that served healthy food for the price that you can get something at McDonald's, you know, you have to be realistic about that stuff. (PII KII 13 VS; Public Health, Regional)

Tower Hamlets you've got massive growth in you know, fried chicken and chip shops, it's such cheap food, you'd just be surprised what you can buy for like two quid (PII KII 16 SR; Community Healthy Eating Team Lead).

The Bangladeshi key informants noted the impact of the affordability of foods such as meat and fish in the UK versus Bangladesh which are the converse of each other; fish being more expensive and therefore less accessible in the UK. The relative high cost of vegetables in the UK and the cheapness of processed snacks were also noted to be contributing factors to intake.

I think they're eating, they're probably eating more crisps and that than they would in their own country, because I would expect crisps in Bangladesh would be unheard of or very expensive, and here they're what – nothing. (PII KII 01 DT; Public Health Dietitian, National)

To meat, yes, and Bangladesh is opposite, meat is more expensive, and fish is, ah, more healthy. People knows that, but cheap as well, more available. And, vegetables are much, much cheaper than in this country (PII KII 03 RY; Bangladeshi; Community Nutrition Link Worker, NHS)

[B]ack home, those who are poor, they see meat as for rich people isn't it , they can't afford it, so here when they came and they earned the money they said oh I could easily buy meat or chickens, easy (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

Overall, affordability was a consideration for the choice made rather than not being able to afford an adequate amount of food. A number of the key informants felt that healthy options, including snacks, were relatively more expensive although the point was also made that it was possible to buy affordable fruit and vegetables from the markets. The point was also made that to a degree affordability is relative to personal importance, such as the willingness to pay more for Bangladeshi vegetables. The high intake of take-away options was thought to a large degree be a consequence of its cheapness. In comparison to Bangladesh the relatively high cost of fish compared to other meats, and fruit and vegetables was also noted as a reason for the changed consumption patterns.

7.0.4.3 Isolation

The Bangladeshi community is perceived as being very isolated from society as a whole but for many of the women, they are considered to be particularly vulnerable, even being isolated within their own community. Perceived Islamophobia in today's current political climate,

language barriers and the particularly poor socio-economic circumstance of many Bangladeshis were given as potential causes for this isolation.

[T]o be a Muslim now must be quite scary, I don't know, there's a lot of anger amongst the UK at the moment against Muslims which is uncalled for but they must feel very much more isolated (PII KII 02 NM; National Diabetes Policy)

[T]he Bangladeshi community actually were so, whether it was income, or education, or health, or whatever, it's like they're sort of the excluded of the excluded, and you know, quite large households, living in incredibly cramped conditions on very low incomes, often with, you know, workless families, kids who are not doing terribly well in the education system, so, the sort of huge structural stuff I think around the Bangladeshi community, and the fact that the, you know that piece of London which has always been a transit camp, and communities arrive and move through, I don't get the strong sense that the Bangladeshi community is moving through yet, so it feels as though they really are kind of locked into to some very difficult, sort of, life circumstances. (PII KII 13 VS; Public Health, Regional)

[A] lot of them won't travel far because they are very much, a lot of them are very isolated, there a little community, um, particularly the older generations where they maybe can't speak English, and they will not really … travel that far (PII KII 15 WP; Community Dietetic Manager)

Community services, such as fitness classes and food cooperatives, which specifically target the Bangladeshi women or simply attract their attendance, are felt to be an important resource for this group, often being their only outing for the week.

Bondon which is for isolated Bangladeshi women and they come and do keep fit every week here and have a nice lunch, um, and they're all in their fifties (PII KII 04 LC; Community interfaith co-ordinator)

[W]e work with so many people who are just so socially isolated and that wait for that food coop to come on that Thursday or Tuesday, um, come down and talk to us about anything and everything, you know. (PII KII 16 SR; Community Healthy Eating Team Lead)

One general perception of migrants as a whole was that from generation to generation there is increased integration with the wider community and thus the second and third generations will have a different experience to that of their parents and grandparents.

You know, when you first move somewhere you tend to be very much in a closed community, second generation people tend to integrate slightly more, um, third generation much more. (PII KII 08 PR; FSA – nutrition division)

7.0.4.4 Literacy and language

The language barrier was seen to impact on the ability to make lifestyle choices due to difficulty in accessing information. The Language barrier furthermore is not simply Bengali versus English but rather differing levels of understanding between Bengali, Sylheti and English within the community itself. Even where translation services are available there was considered to be a low uptake therefore possible an issue of accessing this at times hard to reach community.

[B]ut it is you know important to mention, although we have a translation service, the two, about three thousand calls we get to Careline a month are predominantly about nutrition, we get very little calls from our BME community, so even though we offer a translations service, we're not reaching out with our Carelines to this community who, so obviously they sort their information from other sources. (PII KII 02 NM; National Diabetes policy)

I don't think the young generation they watch this, because of the language barrier again. What happen, ah, even though children are in Tower Hamlets, I'm talking [A]bout Tower Hamlet, children are, can speak Bengali, they can't speak Bengali, they speak Sylheti, so Bengali is actually more, ah, different from Sylheti, to understand it is not very easy or to speak, so, that's where they're not very interested in watch this. (PII KII 03 RY; Bangladeshi; Community Nutrition Link Worker, NHS)

Communication is the most important for our people, ah, children speak English, half broken Bengali, Sylheti dialect and ah, parents speak Sylheti dialect so, or granny speaks Sylheti dialect and children's, this children's are now, oh parents say he can speak English so he can interpret for me (PII KII 07 JL; Bangladeshi; Community Project manager, Food & health)

7.0.4.5 Lifestyle

The impact of changing modern lifestyles have had a considerable impact on the Bangladeshi population with relation to traditional dietary patterns including cooking and meal time structures as well as physical activity types and amounts. One of the most significant changes has been the second generation women entering the workplace and therefore having less time available for household 'duties' and spending large amounts of time on traditional meal preparation, often preferring instead quick and easy alternatives which may include take-away meals. For very traditional families where these workforce changes have not occurred the changes have been far less substantial.

I think so who are actually working, um, couple, I'm just giving example working couple, maybe they will actually cook for just occasionally, for weekend, you know like this, they will go out, or just for takeaway (PII KII 03 RY; Bangladeshi; Community Nutrition Link Worker, NHS)

I think that for the generation that are working and maybe don't want to cook when they come home, they will just get take-aways and things like that (PII KII 04 LC; Community interfaith co-ordinator)

The other thing that has changed with the second generation because they are more mobile and working, the easiest way to do is go shop and buy ready made food isn't it, microwave them, not all of them can afford to go to Marks and Spencer's, so it's, so that's…I think the second generation probably diets shifting to more food that are not cooked, just put, easy lifestyle. (PII KII 05 TA; Bangladeshi; General Practitioner)

[T]raditionally you have to use your hands to eat fish because you can't eat with your fork, lots of small bones… But the young people, they're now used to using knife and fork isn't it, so they can't eat the fish, so it's a kind of _ if there are too many bones they wouldn't go for it really, they would rather go for chicken isn't it. It's the practice, so it's the parents problem that they didn't educate them generally at the beginning, that you have to use your hands, use it, because fish you have to use whichever, it's a practice, so normally people _ children, so majority houses now life actually changing , generation now shifting towards other foods you know. (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

[H]aving time you know lots of kids, how and when you're going to get time or your working two jobs, um and you've got this extended family who have got expectations of you. As a young mum you've got your in-laws, these in-laws also have children and your part of that family now, you know, looking after those children, so if you're one of those young women who chooses to work and is supported by the family to work, then you'll be going to work, but then you'll be coming back and you've got that life; sorry, I've just got to take time to go for a jog or go for a walk or go to the gym or, it's not going to work… it's the way we live our lives and the pressures that people have here, and exercise is going to be at the bottom of the list when you're trying to make sure that your kids are healthy and safe, that they're getting a good education, um, and you're paying a mortgage and you know, you're trying to _ your life and get out of your overcrowded accommodation, you know, that's got to come first. (PII KII 12 SP; Community Project manager, Food & health)

I think they're [second generation] probably not quite as interested again because they're often going out to work … they're going off to university and it's probably not as interested and they've got more of a social life and I'm sure they're not now as interested as they used to be. I think the ones who've … got married quite young and maybe have children then they definitely start to take on that role but the ones that've got careers and I really don't think they're that interested these days. (PII KII 15 WP; Community Dietetic Manager)

[T]raditionally, food is seen as a time when the whole family gets together and it's a time to also socialise and enjoy their meal, but in this country because everyone has, you know, work and especially different hours of work, most of the men in our community are working late nights and in restaurants and because of the time difference it's very difficult for the family to have a meal

together. So most of the people who are studying or working will eat in their workplace and it's becoming rare and rare as families are beginning to work more and more and the wife as well now., Before it used to be quite rare the wife, women working now it's becoming more common so everyone is busy and have their lunch and dinner in their own time. (PII KII Imam AAB)

Eating together as a family is also being impacted on by lack of adequate housing which has resulted in a breakdown in the traditional extended family structure for some, with the married children instead having to find housing of their own. In this circumstance however, rather than necessarily having meals separately, families may continue to come together at the house of the mother-in-law meals to prepare and share meals.

Even, or now there's another problem because of the, ah, um, housing problem … If it very crowded, then they have to move, you know … But still, I have to admit this thing, I know that, ah, Tower Hamlet, how the people living, they lives, they got their own flat, so they actually go there, to sleep there, right, but they come for lunch and dinner…Back with the family, so, maybe daughter-in-law comes and helps with the mother-in-law cook, eat, and then goes back to the flat. They got their own flat, but, the food time, they actually together. I know some, lots of families are doing _ like this. (PII KII 03 RY; Bangladeshi; Community Nutrition Link Worker, NHS)

The greater exposure of the second generation to the British food culture further impacts on food choices, with a greater degree of integration and adoption of new patterns occurring. These more recent changes are seen to be quite a contrast to the experiences of the first generation that remained, and often still do, quite isolated from the British population, having difficulty adjusting to the changed food environment and lack of availability of well known foods.

[T]he young children again have been exposed to this same sort of influences that their peers have, so, you know, they're eating more junk food, more crisps and drinks and things, and its in some way, you know, the integration has become faster in the food eating habits of, in the younger generation than other, other sectors of life (PII KII 05 TA; Bangladeshi; General Practitioner)

[W]hy people like my parents have got diabetes and hear disease and what happened and the lifestyle change and the change in culture and all that, and you can see, you know, that if anybody just looked at it and thought OK, they came from rural communities where life was a lot harder and they had to kind of work, and they were burning a lot more energy so they could consume that amount of food, and then they came here, and the difference was that people became more affluent but didn't quite know, you know what to do, so as people became more affluent, like why are we using oil to start of with, oh lets have ghee, it's like, it's more fragrant but you don't, I think myself getting old, when I spoke to, when I speak to my mum and dad, and my mum says when she first came to this country she cooked everything in ghee, she said that's all we know, um, she said we didn't' have, there wasn't shops … that sold culturally appropriate foods, um, the only thing that we know was that, you know, ghee was what we

used, we used it in everything, whereas now, ghee is only restricted to use is cooking special food and special occasions and it might be pilau rice or something like that, very rarely is it used in other things, um, but instead people have sort of increased the amount of oil that they use, um, and also I think you know, when parents, when my parents first came, money was such an issue that it was all about, you know, if we can, people didn't, used things in abundance like they do now, um, because peoples choices have improved and things like that. And also, how you know like, our mums came and they didn't have much to do, so they spent most of their time having children instead and staying at home and exercise was just not, you know, well they weren't familiar with the term exercise, people don't do exercise in Bangladesh, people, you don't see people jogging, you don't, there are no gyms, they might now, there's one in Sylhet, there is, you don't get everyone going to the gym, it's more the in thing amongst more affluent communities, um, but people didn't, weren't familiar with the concept of exercise. (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

A more recent lifestyle change is that being experienced by the highly skilled Bangladeshi migrants from Dhaka who unlike their countrymen from Sylhet are not accustomed to doing their own cooking as a consequence of having maids in Bangladesh.

Well they have, when they come here it's a big shock for them because they have to cook and clean and do everything. They find it really difficult because back home they've got you know housemaids and they've got their mum's and everybody else to do everything for them and they find it really hard, and I think in terms of diet, if they can get a little bit help with the child's feeding then that's great for them you know, in terms of just buying products of the market… Because they find it a chore to cook meals [states slightly incredulously], I find it shocking, but the say 'you know what, now we realise how hard it is in England'. But they're so used to the high life that they come here and get actually shocked themselves and cry to go back. (PII KII 10 MK; Bangladeshi; Community Nurse).

Modernising lifestyles, especially the second generation women beginning to enter the workforce, has had a considerable impact on traditional dietary and cooking patterns due to the time constraints. Where families have maintained a more traditional structure these changes are far less apparent. Lack of adequate housing has also led to a breakdown in the family structure for some where it hasn't been possible to continue to live in extended families. A newer issue is being seen with the more recent economic migrants from Dhaka who are having to learn new skills, such as cooking, previously done by housemaids.

The dominant themes relating to the environment in which this community lives was in relation to the proliferation and accessibility of the take-away outlets together with the changing lifestyles of the second generation as they become more acculturated to British society. This later change is more noticeable for women who are beginning to take on new roles within the family as has happened in many other societies.

7.1 Eating Patterns

One of the principal aims was to investigate the trend in eating patterns between two generations of British Bangladeshi's. As we have already seen with the community interviews a clear pattern that emerged is that of changing dietary practices from a traditional diet based on vegetables, pulses and fish, to one taking on mostly the negative aspects of the western diet, high in fat, salt and sugar. This was reinforced by the key informants. The younger members of the community, such as the teenagers, have taken a further step away from the traditional diet which appears to be more associated with a cultural transition with nutritional consequences. Conversely though, when looking at the differences between genders, of note is that it tends to be the younger men or boys that are more likely to follow the first generation with their dietary tradition, to some extent as a consequence of their mothers influence. The younger men are tending to be at the extremes whilst for the women it's not the complete move from one to another but rather an adjunct for many and associated with changing lifestyles.

The specific research questions being addressed were:

- What characterises a traditional Bangladeshi versus a more western style diet?
- What are the main changes in food choice for the first generation over the years since migrating to the UK?
- What are some of the differences in the eating patterns of two generations of British Bangladeshis? How and why consumption style has changed?

7.1.1 Traditional diet

A number of the Bangladeshi key informants made the differentiation between the traditional diet in Bangladesh and what is classified as a traditional diet now in the UK. Significantly, it was noted that while the majority of families continue to have rice as a staple in the diet, there have been changes in the complementary and accessory foods which make up the components of the curry. For example, chicken and red meat is taken more frequently than fish, a reduction in vegetables is seen and there is a much greater usage of oil in the UK, a pattern which, as has been noted in previous studies (Grace C et al. 2008;Greenhalgh T, Helman C, & Chowdhury AM 1995;Kocturk-Runefors T 1991;Mellin-Olsen T & Wandel M 2005)tends to be more closely associated with feast foods. The changes have been a consequence of urbanisation and the greater degree of both accessibility and availability of different food items.

I have to say that is not a traditional diet _ even thought they are eating maybe Bangladeshi fishes, Bangladeshi vegetables but is not traditional way of cooking. (PII KII 03 RY; Community Nutrition Link Worker (NHS)

[H]istorically the Bengali diet used to be a lot of rice and vegetables and fish based, coming from a country where, you know, fish has been a staple diet for years. (PII KII 05 TA; Bangladeshi; General practitioner)

[O]ils and meat, still issues, still in the house taking it almost everyday. So they actually, they not taking a very traditional diet, you know, a traditional diet is really good, you know, like fish, especially the small fishes is more healthier and lots of vegetable and lentils or you know, other kind of pulses, and you know back home they will take yoghurt as a daily, you know, you take yoghurt with either yoghurt based curries or yoghurt as a side dip but here they're not taking it every day food you know. (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

The traditional Bangladeshi diet is rice, fish, vegetable, OK. Meat, I'm talking about in Bangladesh, meat is not everydays [sic] food, meat was not everydays [sic] food, it occasionally in a special time, special day, occasionally food meat but the fish and the rice are our staple food, dhal, vegetable, oil, low calorie, not so much fried food, not so much oil, oil in the cooking food (PII KII 07 JL; Bangladeshi; Community Project manager, Food & health)

[T]he meat and the chicken you don't eat it every day you eat it occasionally but I'm afraid things gone reverse now. Meat everyday, nowadays meat every day, fish and things, ah, occasionally (PII KII 07 JL; Bangladeshi; Community Project manager, Food & health)

The food of the British folk is different! They eat boiled food. Unlike us they won't eat rice continuously, they chop and change. [They eat] vegetables and what do you call it now… We eat mostly rice and curry. Of the curry, we on some days have chicken, some days vegetables, and some days meat – mutton – lentils. Mostly rice and curries. (PII KII Elder SMA)

7.1.2 Western diet and urbanisation

Taking into account the changes in the complementary and accessory foods which have resulted as a consequence of urbanisation, the overall the degree of change with respect to taking on a western diet has not been considerable. For while there are some western foods beginning to enter into the meal patterns of the Bangladeshi community, the desire to continue to have traditional rice and curry meals dominates. The changes made tend to be towards making some quick meals, in particular pasta, or exploring different foods in restaurants, however this is an adjunct to the traditional choices rather than a replacement for both the first and second generation. Where the greatest degree of change has occurred is with the intake of high fat, salt and/or sugar takeaway foods and snacks which will be outlined presently.

No, I think they are most families, I know there are a few, very few you know in the second generation probably are now starting to change a little bit more towards the western culture, but what I think, you know, in terms of foods they eat, but I think we still, like for myself, we still have to cook rice and curry every single day. You know, if I made spaghetti bolognaise like I did yesterday, that would only be lunch, it wouldn't be dinner, there would still have to be rice and curry available, so I think it's considered as a big part of our diet and we are still having fish, it may be not as much as you know, the older generation, but we are having, at least one or two portions of fish a week. (PII KII 10 MK; Bangladeshi; Community Nurse)

I think it's the guys that are a bit more spoilt by their Mums, I think honestly, most Bangladeshi men you find, no matter how Cockney they sound, you will know by the end of the night, you offer, you say to them, what would you like to eat, rice and curry or some bolognaise or some pasta, they would say rice and curry. (PII KII 10 MK; Bangladeshi; Community Nurse)

Yeah, things like crisps, ah baked potatoes with baked beans, um, things like that you know, um, some of the quick foods, that's where the changes are, not like the big, like I don't know anyone, I mean _ tried to make a lasagne, it didn't work, um, big things like that, having salad with a tuna steak or something like this, I don't see a change like this, it's in the fast, quick to prepare foods, you know like baked potatoes, things like that. (PII KII 12 SP; Community Project manager, Food & health)

All this boiled vegetables, which is hopeless anyway … changing their diet to something that's bland and they're probably tipping all the nutrients down the sink, so, it's a bit sad, there's nothing wrong with a curry, done the right way. (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

Day by day in this country different foods are being introduced of different origins like Turkish, Italian and Mediterranean food. I think people are eating different good and experiencing that, going out to restaurants and having like pizza and noodles and all these different types of food. But traditionally, our Bangladeshi foods people are still holding onto that. They have that on a regular basis but sometimes have different foods. That's what I see from my experience and I also do the same. I like to taste foods from other cultures. But whether we should hold onto it or not? It's good to experiment eating different foods, gives you a better understanding and of course the taste and nutrition…gives you another experience altogether. (PII KII Imam AAB)

The most significant emerging dietary pattern was the substantial increase in high fat, salt and or sugar take-away and snack foods, particularly amongst the second and younger generations of British Bangladeshi's. The Key Informants made the further observation that these foods are not replacing the traditional diet, but rather additional and that where there are western influences they tend to be negative. A couple of the key informants expressed concern that many have taken on the poor dietary habits of both food cultures and as such are gravely concerned for the future health consequences in the community.

[O]n diet histories and, it wasn't generally healthier food, it was more the unhealthy food, the burgers, the chips, the chocolate bars, biscuits, that sort of thing (PII KII 02 NM; National Diabetes Policy)

I think Bangladeshi community, the issue of good food habits is important, I think a change from a staple, ah, traditional diet to a more western diet has not been very, this transition has not worked very well. (PII KII 05 TA; Bangladeshi; General Practitioner)

The bad components. So retained the bad of their own diet and taken all the bad components here. (PII KII 05 TA; Bangladeshi; General Practitioner)

It is losing because the second generation now are getting hooked with, not even traditional English food or healthy English food, just junk food isn't it, you know, … see that they are taking lot's of English healthy food like lots of salads, like say steamed fish … they go for McDonalds and things so we're not just good news of course for any community, but it is changing, the traditional food … majority of young people wouldn't take now traditional … first thing is, um, also spicy, so for some reason they can't take spicy food because they're not taking it every day isn't it and also they prefer chicken than fish isn't it. Fish if it is a fried like fish and chip shop then they would go for it (48:33) but the way Bengali _ fried isn't it … cooked in a curry _ isn't it … and then sometimes there is a problem, most of the fish come from, there are lots of bones there, because of the bones, a lot of bones, I mean … it's a general theory, the more bones it got the more tastier fish it is … but Ok then traditionally you have to use your hands to eat fish because you can't eat with your fork, lots of small bones… But the young people, they're now used to using knife and fork isn't it, so they can't eat the fish, so it's a kind of _ if there are too many bones they wouldn't go for it really, they would rather go for chicken isn't it. It's the practice, so it's the parents problem that they didn't educate them generally at the beginning, that you have to use your hands, use it, because fish you have to use whichever, it's a practice, so normally people _ children, so majority houses now life actually changing , generation now shifting towards other foods you know. (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

But, if you actually go into a supermarket at Whitechapel, Sainsbury's, you will see that there are, you know, big bags of rice and so on in the trolleys, um but there are fizzy drinks and bags of crisps in large quantities, and then if we go into the foods outside their usual cultural range, um, it's the pasta and the 'Dolmio' sauce that you see. So I suppose what I, personally do to kind of check out what's going on, I look in the supermarket trolleys, which when I first started working down there is what I did, and that does seem to be born out, so, there's still the very traditional, familiar looking things for the family meal and that seems to run through the generations but there's the add on's, so their not replacing they're just adding on the crisps and the sugary fizzy drinks and so on. Where they do say they sometimes cook a different style meal, um, it's usually something not very desirable, um, as in high fat version of something, but I do see the pasta and Dolmio sauce as well. So I think it's adding on not very good foods to something that's inherently better. (PII KII 09 ER; Dietitian, weight management)

I kind of really worry about the current generation … I don't get the sense that you know, they've taken on the good aspects of the Bangladeshi diet, I don't get … the impression that they've learnt to cook for themselves, that they're thinking about, you know, their five a day or, I just don't, I … just get the impression that we're just storing up a lot of, um, morbidity for the future, I just … that's kind of worrying … (PII KII 11 KL; Bangaldeshi)

I think also looking at the whole influence of fast-food, first generations aren't that open to fast-food, they don't consume a lot of it, you know, um I think second and third generation communities are consuming, you know, vast quantity of fast food. (PII KII 16 SR; Community Healthy Eating Team Lead)

In recent times it has developed amongst the youth. Many children can't compromise with what their parents eat so they eat outside. They get from McDonalds, from KFC, and now their habits have been corrupted. Even on way home from school, where they used to go home and eat at home, now they get out of school and make a beeline for McDonalds, KFC, and PFC. You see them walking the streets with packets in their hands. When they get home, they are full. When parents press them to eat, they say, 'No, we won't'. Their original food is lost. (PII KII Imam AHK; Bangadeshi)

7.1.3 Snacks

The snacks tend to be high in fat, salt and/or sugar regardless of whether they are more traditional homemade items such as samosas and 'Indian' sweets as usually consumed by the first generation, or western style snack such as crisps and chocolates consumed by the second and younger generations. For all generations however the intake of fruit was considered to be limited. Another point noted was that pasta was often considered to be 'just a snack' by the first generation, something to be had between meals but could not replace traditional rice and curry.

But most of the adult don't eats crisps, chocolate, sweets, this thing but again they eats, mmm, I don't know you, ah, you probably know or not, you know called chana, chana …Chana, or samosa or um puri, that is fried…And you know, they children eats crisps as a snack …Traditional snacks yeah, or biscuits, now days people actually are very busy to make these thing at home, so, um, they are available at shop, they can just fry at home. So this thing or, ah, biscuits are more common as a snack _ very common. (PII KII 03 RY; Community Nutrition Link Worker (NHS)

Sometimes they're fried snacks or sweet stuff isn't it. It's not really fruits. It's like either sweet stuff or fried snacks you know, mainly. (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

[T]here's the little cakes and crackery, biscuity things between meals, and then we've got the other influences, the sort of crisps and the bits and pieces coming in. (PII KII 09 ER; Dietitian, Weight Management)

[T]hey have other means of having fruits, so either like the apple, probably in the western culture would probably just wash an apple and eat it, whereas in the Bangladeshi culture what they'd probably do is first peel the skin off, grate the apple, um, burn a bit of garlic, put it in the stove, burn that, slice it up into bits, put it with the apple and then eat it…their snacks would probably be made out of rice flour, it would be home made, you know, onions and that, whereas

our snacks would probably be a packet of crisps … we do have chocolate but our um, you know, the first generation would have not chocolates, they would make things like Indian sweets, like a whole bag full of sugar in that (PII KII 10 MK; Bangladeshi; Community Nurse)
I'm saying that young people eat more snacks and crisps and things but I know there's a lot older, older women that I've seen that have got a really sweet tooth and like their sweet foods as well (PII KII 15 WP; Community Dietetic Manager)

Biscuits with tea or coffee. Bombay Mix and even some crisps sometimes. (PII KII Imam AAB)

7.1.4 Drinks

The main theme with the types of drinks considered to be taken most regularly was that the first generation tended to have tea, with or without sugar, and water whereas the second generation and the youth had a greater tendency towards high sugar options such as fizzy drinks and juice.

[T]he drink is another issue, they usually use a lot of sugary drinks, you know, not only the fizzy and sugary like cokes and all this, even the ribena with sugar one or some of the drinks with, it's not a juice actually, you know the fruit drinks with a lot of sugar and I think most of the children are taking this kind of, not fresh [emphasis] fruit juice (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

I mean in terms of drinks, quite a few of them just drink water, but then there's the fizzy drinks come in, um, the sort of sweetish tea is a feature. (PII KII 09 ER; Dietitian, Weight Management)

There was a little confusion expressed with respect to guidelines for fluid intake by one of the key informants which is reflective of some of the confusion expressed by the wider population, both Bangladeshi and non-Bangladeshi.

The doctors says we should drink 5,6,7,8 glasses of water after each meal. So that should be 16 glasses a day. How many do we have then? Very little. Very little. Maybe one glass after food. As for children's habits. They prefer drinks, especially fizzy drinks – so harmful – they are so attracted that they can't do without it. (PII KII Imam AHK)

7.1.5 Quantity

Whether within the general UK population or the Bangladeshi community specifically there was a widespread belief that portion sizes are greater than required for both food quantity overall as well as accessory foods such as the amount of added oil. This was seen to be as a consequence of both the increased abundance and accessibility of food which many find difficult to resist.

[T]hings have changed, I mean some people are starting to measure their oil but generally, traditionally, it's poured out. (PII KII 02 NM; National Diabetes Policy)

But also here people eat so much more don't they, so you'd be eating, I suppose you could have those sugary sweets 'cause you wouldn't be having them all the time; access to Embala just down there, so you just have them on special occasions and things like that, whereas here it's about excess food thing that's revolting isn't it? … it's everywhere. (PII KII 04 LC; Community interfaith co-ordinator)

I think it's also because food have become more abundant and therefore we just eat them (PII KII 08 PR; FSA, Nutrition Division)

If we eat too much…actually this is a habit of ours: we eat a bit too much. We eat in the morning, a good breakfast, and then tea a lot before midday, then we have a heavy lunch and then before going to bed at night we eat heavily. This eating habit, the amount, is too much…They eat too much! They eat, sure, but then boast 'Today I can't walk, lie down, sit down, have eaten too much!' They boast as well. They eat [heavily], have enjoyed it fair enough, but the fact that it is harmful for them in the future, that they don't understand. That's why we need to eat within limits. Placed in front of foods, we just want to eat it all. But we don't understand the end [result]. We don't calculate. We just eat. (PII KII AHK)

[U]nfortunatley, the amount of oil we consume at time of breakfast! Glory be to God! Especially our Bangladeshi community – fried lentil balls, fried onion rings, the amount of oil. A lifetime's worth of oil is consumed in just one month! (PII KII AHK)

While it has always been part of the Bangladeshi culture to share food with family and friends, the 'level' at which this happens now in the UK if far greater than in Bangladesh as more food is available in both quantity and the overall greater choice.

[W]hen I was in Bangladesh, if you are eating, ah, fish, you are eating fish, if it is meat you are not eating two, three chunk of meat, you are eating one or two because it have to be distributed around you know, whole lot of big family, so you are not going to eat whole chunk of breast or breast have to be cut into pieces, two or three … and then you'll have your one piece or you'll have two piece if you are lucky, if you are not then one piece is enough … it's just balance, what now I'm thinking, even I myself thinking, what we had a balanced diet. Fish also that does not mean it's a big fish and you are going to have a whole chunk of fish like in there you do fish and chips, you can not have a whole chunk of fish, that fish need to be cut into smaller pieces and then you will have a one piece and not mostly fried…Not only portion size, if I invite you I'll cook you fish curry, I'll cook you vegetable curry, and fish curry, fried fish, maybe boona fish, maybe another kind of fish we eat like shutki, we call it dry fish, so would be two, three item, maybe fish kebab if I can have time, I make the fish kebab, maybe out of tinned tuna or sardine or something, I will make a fish so that will be about two three item of fish … then I will cook meat, also meat curry, meat kebab, or something wit the meat so there would be another item of meat and then would be the vegetable and salad and then would be the pilau, rice, would be two, three kind of rice. If I can cook you pilau rice, cook to eat with meat, boiled rice you eat with the

meat because fish and the pilau does not go, and then there will be a sweet dish, maybe sweet rice, another, so you can imagine and we are killing our self cooking and killing our self eating…but before, if we invite in Bangladesh we used to have a lot of people coming and there will be, item will be pilau, one kind of rice, pilau, korma, the mild curry, korma, made out of yoghurt and not spices very you know, very nice curry … and one item would be meat with potato and a salad and after it could be yoghurt or rice pudding or … whatever and that's it, and they will not give fish to this because, ah, before we used to cooking, our parents is cooking, you must not eat fish and meat together because it not good for your health. (PII KII 07 JL; Bangladeshi; Community Project manager, Food & health)

7.1.6 Dietary changes - positive

While the focus tended to be on the negative changes that have occurred to the food patterns within the British Bangladeshi population there were also noted a number of positive changes occurring. Some of these changes are being seen in the 'health conscious' members of the second generation but others amongst the first generation who are making changes back towards their more traditional diets of increased fish and vegetables and reduced added fats, possibly as a consequence of increased education and knowledge over more recent years.

But when I came this country first everywhere, er, meat is compulsory, like rice and meat every meal. They actually cook meat, vegetables maybe lentils or fish but meat has to be with the rice, but now days people don't actually, mmm, cook everyday meat, maybe twice in a week, or maybe sometimes people say we don't eat meat at all unless if any guest comes. (PII KII 03 RY; Community Nutrition Link Worker (NHS)

Here actually I think now [emphasis] things are changing, a lot of houses now they try to take salad with the food, so use of salad I notice is increasing, oil they're trying to cut down now and at least some of them switch to, you know, polyunsaturated, monounsaturated from, I don't think any houses use now saturated oil … occasionally they use butter because maybe when they do biriyani _ special _ and when they fry things, you know like pakoras, samosas (PII KII 06 NC; Bangladeshi; Community Project manager, Food & health)

[T]here's a younger contingent who cook differently; they use less oil and they always cook, well certainly on the vegetable side of things they say 'oh, I always steam a few vegetables or this, or just put those in at the last minute, so, you hear that being stated now with the younger ones, but equally there'll be younger ones who don't do anything different, so I think there's sort of, I don't think there's um, this generation this, ad that generation that, certainly amongst the younger ones there is a … there are some different practices. (PII KII 09 ER; Dietitian, Weight Management)

I think it's more the older generation, I think more youngsters now acknowledge fruits and vegetables and they do have a lot more of it … it's a changing trend (PII KII 10 MK; Bangladeshi; Community Nurse)

I would say it's defiantly changing the younger trends and they are having a much more salads and things, um but it's about someone, one person in each family making that change, you know, I used to be called the rabbit for eating when I first came and I thought 'I'm in alien world' people think you know, poor people eat vegetables, you eat salad you're a rabbit, you know, these people are from I dunno, I feel like I'm from mars probably [both laugh], do you know what I mean. Now it's slowly changing and people are eating you know, having a lot more variety of foods, salads and fruits and things. (PII KII 10 MK; Bangladeshi; Community Nurse)

Overall, the emerging dietary patterns for both the first and second generation Bangladeshi's were considered negative by the key informants with the Bangladeshi's consuming a diet that was the 'worst of both worlds'. With respect to the traditional diet, it was emphasised that there has been a large change to incorporate more 'feast' foods on an everyday basis with a simultaneous reduction in fish, vegetables and pulses. The second generation are also incorporating unhealthy western take-away options, in addition to the Bangladeshi foods. Excess and over-indulgence were considered to be now embedded in current dietary patterns for both meals and snacks with the large portions and over consumption on a day-to-day basis as well as when entertaining family and guests. Some positive trends have been noted though, especially amongst the young, towards lower fat cooking practices and increased consumption of fruit and vegetables. Although, whereas the first generation tend to drink water and tea, for the second generation, fizzy drinks and juice are now being incorporation on a regular basis.

7.2 Physical Activity

The understanding of the impact of cultural, religious and health beliefs on physical activity and therefore the implications public health prevention programmes were explored with the key informants.

Beliefs around exercise were typically discussed by the Bangladeshi key informants whereas the views regarding the potential barriers emerged from key informants from a range of backgrounds. As with the diet, cultural versus religious constraints were emphasised and the contradictions between the importance of physical activity noted in Islam versus the distorted cultural traditions which are leading to restrictions to physical activity. Environmental conditions and safety were noted as impacting, but to a lesser degree than the cultural constraints.

Specific research questions being addressed:

- What are the potential effects of educational levels, social class, access to housing and employment status?
- What are the attitudes and beliefs in the Bangladeshi community towards physical activity?
- What are the potential environmental influences on physical activity?
- What are the barriers to accessing physical activity options?

7.2.1 Beliefs around exercise

The Bangladeshi key informants that work within the community in Tower Hamlets felt that physical activity was extremely important and should be promoted. It was noted however that within the community itself that there were different perceptions as a consequence of the rural background of the first generation where physical activity was incidental rather than planned. Furthermore the Imams reflected on the importance of physical activity and maintaining good health within Islam, noting that it is tradition and culture that has lead to the current lack of physical activity within the Bangladeshi community and not religion. A very clear distinction between was made between what is an effect of tradition and what is related to religion; a distinction that is very often lost with many people not understanding where culture / tradition stops and religion begins.

Important, important, and … important, and we are doing lot of self management and 'healthy moves', I think it is important, very important, but people need to be motivated as well. (PII KII 07 JL; Bangladeshi; Community Project manager, Food & health)

[E]xercise was just not, you know, well they weren't familiar with the term exercise, people don't do exercise in Bangladesh, people, you don't see people jogging, you don't, there are no gyms, they might now, there's one in Sylhet, there is, you don't get everyone going to the gym, it's more the in thing amongst more affluent communities, um, but people didn't, weren't familiar with the concept of exercise. (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

The Great Lord has made us as machines: hands, feet, limbs, eyes, mouth, brain, everything. It's a machine in total that functions. God has made it so it functions. If that machine functions improperly, then we can understand that the machine has not done as much activity as it should have. If it does not do enough it will affect the body. So the more we can keep the machine going, the better we will remain in good health. In that respect, the food we have, if we allow the food to settle there will always be a side-effect. We don't always understand it, but many illnesses are created. Instead, if we have a daily routine, create a chart, that I will walk this long, exercise for this long, at home or in the gym (PII KII Imam AHK)

That's a really big concern for me as an imam and my colleagues also. We're trying to address this. It just seems that traditionally health and exercise… it hasn't been given any importance at all. Whereas is Islam … again it's just in our community, not all Muslims. There's a big different between Islam and tradition. In Islam, so much emphasis is given on health and food that we consume health and fitness. (PII KII Imam AAB)

As with many people in the general public there is a tendency to think of physical activity as something that has to be planned, rather than incidental activity as part of day to day lifestyle.

[T]hey tend to think of exercise as 'oh, it must mean I have to go down the gym', not necessarily the things that they could do at home, going up and down the stairs and things… But I think they don't really, like most people don't think 'oh well, I could put some music on while I'm hoovering', you know, it's the practical issues, going up the stairs, that kind of thing, walking instead of getting the bus or to the shops. (PII KII 15 WP; Community Dietetic Manager)

7.2.2 Perceived barriers to physical activity

As with majority of participants, both community and key informant, the focus of the barriers to physical activity is on the women with respect to modesty constraints as a result of religious norms within the Bangladeshi community in Tower Hamlets. It was considered that there were variable degrees of personal responsibility within the community although set against substantial barriers.

Black and South Asians do a lot less physical activity compared to sort of white Caucasian community and there may be many issues, reasons for that … barriers in terms … is the community offering the right, appropriate facilities … that they want to participate in, you know, swimming lessons may not be appropriate for Muslim women for example so I know that is an issue (PII KII 02 NM; National Diabetes Policy)

I've mentioned to some of the younger women that I see, when I talking about exercise, I've come to realise that they won't get on the bike and go down on the street on a bike and so clearly you have to know what's going to be acceptable to the population (PII KII 09 ER; Dietitian, Weight Management)

Umm, so yeah, it's not culturally acceptable to go jogging in the park, and <u>they're not speaking of it</u>[64] *but they're jogging like six o'clock in the morning because you have to do it discretely, um women, and I remember growing up as a kid, older girls would go jogging six o'clock in the morning, but to go cycling isn't acceptable. I said to my friends that I was going to go get a moped, they laughed so much, they're like 'you're going to sit on a moped and be public display' … Cycling isn't so culturally acceptable for women, so there's like cultural perceptions, um, but then, it's different in Bangladesh, you go to like the capital city of Bangladesh and you've got women exercising, people go to the park and run and do things, it's fine there, here there are some cultural traditions that have really been distorted.* (PII KII 16 SR; Bangaldeshi; Community Healthy Eating Team Lead)

For the first generation, and particularly the women, there does seem to be a significant degree of stigma associated with exercise which is a significant barrier. Physical activity is not considered to be an appropriate behaviour within purdah and thus concern at being on display, especially if there may be men present. Many of the second generation on the other hand, especially the men are getting more involved in physical activity.

[64] Words in *<u>underlined italics</u>* may not be accurate

The younger generation are better, a lot better, because they go, the younger men they'll go to the gym and they'll go swimming and they go football and they have a lot more physical activity, they don't care, they ride their bike, whereas you know, it's not embarrassing, they're quite liberal with that. (PII KII 10 MK; Bangladeshi)

[J]ust to forget about the fact that there is stigma attached, you know not, it's not an embarrassing thing, it's ok to go swimming and stuff … she's loved it, absolutely loves swimming, and she went there and she met up with the older women and thought this is OK, but when we came back she said 'oh, don't tell the neighbours' and I thought, you've just done something fantastic for yourself, why is it embarrassing you know, there's no, there should not be any stigma attached to keeping yourself fit and well (PII KII 10 MK; Bangladeshi; Community Nurse)

Despite the liberalisation amongst some of the younger men, some perceived, especially amongst healthcare professionals, that the young women in Tower Hamlets are, more recently, choosing to follow more fundamental religious constraints, with a culture of withdrawing into strict purdah developing by way of wearing a hijab[65] and for some a starting to also wear niqab[66] which was previously rarer. This is having the effect of reducing physical activity within this group following a period of being more liberal.

[T]here's more women who are veiled now, so I think more women are choosing to cover themselves up, more than, to me, ten years ago, young women were not veiled, they were, you know, they wanted to dress Western, so they ran and they, but I think you may see that changing, so I think we have to develop things that are sensitive to women and certainly that are, ah, at the [stumbles over words a little] healthy living centre they've got exercise programmes for Asian women…it's about having things that are sensitive (PII KII 01 DT; Public Health Dietitian, National)

Some concern was expressed about the perceived poor environment in Tower Hamlets and the negative effect this has on increasing physical activity within the community.

[F]ear of attack … keep to your own community otherwise if you venture out probably fear of attack or reprisal, especially sort of Tower Hamlets, we've got this sort of gang culture as well, um, I wouldn't feel safe walking there (PII KII 02 NM; National Diabetes Policy)

I came from … Oxford … but before I was also living in Slough next to Windsor, and it sort of struck me like … living in Windsor, you want to go jogging you just go jogging in the park, it's lovely … you don't think twice about doing it in the evening … whereas in Tower Hamlets you don't really want to go out jogging in the evening (PII KII 11 KL; Public Health, PCT)

[65] A scarf that covers their hair and neck.
[66] Full veil covering the face and possibly also including gloves

Mixed views were expressed with respect to the availability of culturally appropriate facilities within Tower Hamlets. While the vast majority of people felt that significant improvements had been made to increase access, such as women's only swimming sessions, some felt that the frequency of these sessions was inadequate and therefore are over subscribed. On the other hand, others felt that the facilities that were already being provided were in fact under utilised and thus affecting further expansion.

There is no, mmm, ah, [pause] centre they could go regularly, you know, but I have to say that recently there are, mmm, two leisure centres are open for women _ so, I am talking about women because [laughs] I work with women…I think two days, two days in a week for women, particular time as well. Some people are already complaining, are saying there are not enough, because if people there can see long cue (PII KII 03 RY; Community Nutrition Link Worker, NHS)

Um, there are quite, well we've got a youth club here, and they're mostly Bangladeshi, well they are predominantly, we've got girls and boys who come, and the girls do dance and things like that. So I think Tower Hamlets does have, quite a lot of services they offer, um, but it's about keeping the young people engaged in an appropriate way really. I think that's the key. (PII KII 04 LC; Community interfaith co-ordinator)

They have, have facilities, I wouldn't blame, the council has put in some facilities locally in the last 10 years. I don't think it's used adequately as it could have been. Obviously, you know, if they are used adequately there would be the need for more of those facilities. But at the moment I think what it is, it is itself not being used fully (PII KII 05 TA; Bangladeshi; General Practitioner)

But in Tower Hamlets the Whitechapel sports centre has a women's only clinic on Monday afternoons and it is packed, so why aren't we doing more of that? (PII KII 12 SP; Community Project manager, Food & health)

[I]t's probably easier to see how you could get yourself a bit more active, within that very constrained set of circumstances. Obviously things like public safety are then important, I mean people are not going to walk on the street rather than catch a bus or get in a car if they don't feel safe, but it does seem to me that you can make more conscious small choices about I'm going to work, I'm going to walk for fifteen minutes rather than get the bus for two stops and unless you've got heavy shopping or, you know, children being difficult, then that actually is something that people could do a bit more about. When you then come to Tower Hamlets and look at OK, you're saying people should walk and bike, is that what most people do in terms of normal physical activity, would they go to the gym, most people do leisure walking and leisure cycling, but it is actually quite difficult to see where you would go and do that, I mean not everybody likes cycling along a canal _ path, and not everybody likes walking in the streets without trees so I think again the poorest communities in Londn probably do have less in the way of choices that they can make. Um, so I suppose I would say, if I were saying I'd probably

say it's seventy five percent constrained, and twenty five percent within that people probably could make different choices if they if they really, really wanted to (PII KII 13 VS; Public Health, Regional)

For the first generation, their rural background where there was a high degree of incidental activity is thought to be one reasons behind the lack of planned activity as part of their new urbanised lifestyle; physical activity is not considered for its own sake. More strongly however is what is perceived to be the distorted cultural traditions and changes to more fundamental views have led to the women in particular in Tower Hamlets being more constrained in their ability to undertake exercise, for some believing there is considerable stigma associated. This constraint is considered however contradictory to Islam and the importance placed on physical health and is therefore based in culture and not religion. There were variable views regarding whether there were adequate culturally appropriate facilities in Tower Hamlets which take into account the need for purdah but of those responding, they did acknowledge that more facilities have been made available.

7.3 Causes obesity and diabetes

The research questions addressed in this theme cluster are the experiences and knowledge about diabetes within the Bangladeshi community, and the understanding, within civil society and government, of the current obesity and diabetes epidemics and potential for prevention.

The key informants were asked their opinions regarding the risk factors for ill-health especially in relation to obesity and diabetes. Two broad themes emerged, the first relating to biology with discussions around genetic predisposition; energy balance in a changing world and new lifestyles. The second theme related to social determinants such as beliefs around ill-health as a consequence of poverty and deprivation; poor education and unemployment.

Specific research questions addressed:

- What are the potential effects of educational levels, social class, access to housing and employment status?
- What is the understanding, within civil society and government, of the current obesity and diabetes epidemics and potential for prevention?

7.3.1 Biology

The only key informants to comment on the genetic predisposition to Type 2 diabetes among the Bangladeshi community were health care professionals; two dietitians and a general practitioner. Amongst these practitioners the increased risk as a consequence of propensity towards higher abdominal obesity was noted and the dangerous effect of this predisposition combining with the modern obesogenic environment in Tower Hamlets and with this the ominous forecast for future generations.

Genetics obviously does play a part, with Type 2 diabetes certainly, you know, South Asian are predisposed to distribute the fat around the middle, have a higher waist circumference, so, even though their body mass index may not be in the healthy range, because the way their fat's distributed that increases their risk of type2 diabetes, and as you know, you actually have BMI's … above 23 classed as overweight, whereas white Caucasians will be 25 plus … (PII KII 02 NM; National Diabetes Policy)

[W]hich is the worst case scenario, and you know, for us, as physicians, is like, your dealing with a double whammy, ah, of genetic predisposition in this, ah, group, but also, you know, the issue of sedentary lifestyle and dietary change which is more or less reflects the local, so, ah, this three things has mainly exacerbated the acute prevalence of, the sudden increase in prevalence and incidence of diabetes, ah, I think is very important for the second generation Bengali because they still will carry the genetic predisposition, but added to it is the whole issue of diet. (PII KII 05 TA; Bangladeshi; General Practitioner)

7.3.2 Social determinants

The wider determinants of health were particularly acknowledged by the key informants who worked within public health although a couple of the Bangladeshi community workers also acknowledged the links between the numerous factors associated with social deprivation and poor health. In particular factors such as overcrowded living conditions; high levels of crime; high unemployment; poor academic achievement and affordability were highlighted. Furthermore, Tower Hamlets and the Bangladeshi community in particular were considered to be experiencing the most deprived conditions within the lower socio-economic group and to be the "excluded of the excluded".

This is of course one of the issues of deprivation, because they are in the lower _ of social _ they can't afford to buy healthy foods or organic foods and all this, they're very expensive, their parents most of them are unemployed, you know, poor, they live in the poor housing, education level is not good either, even unemployment among young people is quite high so these actually factors we should consider (PII KII 06 NC; Bangladeshi; Community Project manager - Food & health)

I think sort of the public health perspective is that these are all sort of interlinked. So, um, but the most power determinants are the wider determinants … so things like, um, income, education, … employment, employment conditions and, you know, the environment that you live in, the levels of crime in the area are kind of relevant, um the housing, the facilities if they're available to you, um, and I think that are the things that effect your lifestyle, um, and so, you know, basically what I think it comes down to is like, whatever your level of commitment to your healthy lifestyle, your environment and everything will either support it or won't support it. (PII KII 11 KL; Public Health, PCT)

Well money, I mean the poverty levels are just incredible aren't they? Um, I was quite shocked by that actually when I moved to work in the East End, um, just how much below a lot of measures, the Bangladeshi community actually were so, whether it was income, or education, or health, or whatever, it's like they're sort of the excluded of the excluded, and you know, quite large households, living in incredibly cramped conditions on very low incomes, often with, you know, workless families, kids who are not doing terribly well in the education system, so, the sort of huge structural stuff I think around the Bangladeshi community, and the fact that the, you know that piece of London which has always been a transit camp, and communities arrive and move through, I don't get the strong sense that the Bangladeshi community is moving through yet, so it feels as though they really are kind of locked into to some very difficult, sort of, life circumstances. (PII KII 13 VS; Public Health, Regional)

Well, I'm quite, I'm quite struck by the fact that poorer people tend to be fatter so it seems to me there is something that's well beyond individual choice about, you know, the choices that society gives different individuals and different communities, so, I mean I would very much start with a kind of societal view of, um, if your affluent your more likely to be able to make healthy choices, whether that's about food, or activity, or travel or, you know, whatever, so, there's obviously a big piece, if you constrain peoples choices then the healthy ones drop out before the unhealthy ones. (PII KII 13 VS; Public Health, Regional)

7.4 Burden of Disease

To help answer the questions about what the key policy issues and drivers for obesity and diabetes are, the key informants were asked to give their views on why obesity and/or diabetes have now become such a dominant issue. And, in light of the fact that evidence has been strong for decades, why now? What has been the tipping point?

Specific research questions addressed:

- What is the understanding, within civil society and government, of the current obesity and diabetes epidemics and potential for prevention?
- What are the key policy issues and drivers for obesity and diabetes prevention in this community?

The economic, societal and human cost of obesity and associated nutrition related non-communicable diseases were widely recognised amongst all of the key informants. Those involved in policy at all levels noted this to be one of the predominant drivers of current public health policy with government now widely recognising the huge burden of these disease, especially since the release of the Wanless report. A burden which is escalating and unlikely to be able to be sustained in the future, some even indicating it could lead to a collapse in the NHS.

I think cost is a huge drive because we are all constantly, and I'm sure other organisations do, well I know they do, they sort of quantify the costs of obesity related diseases and the cost to

the NHS in terms of length of bed stay, cost of operations, and ah, I know the government at the moment, you know there's a lot of talk at the moment to ay people of a certain body mass index, then they can't be eligible for certain, um, operations, because of additional cost and it's seen as a lifestyle choice to become that way … and I do feel because we've done a lot of research ourselves, lots of polls, like the Mori poll, I really feel because of the work that we do with the All Party Parliamentary Group for Diabetes, there's also the All Party Parliamentary Group for Heart Disease and obesity, we actually go, we do lobby the government and we do work quite closely with MP's, to raise awareness of the actual financial implications of obesity and Type 2 diabetes and for example heart disease (PII KII 02 NM; National Diabetes Policy)

There's the human cost of the disease but also, you know, the financial cost to states. (PII KII 05 TA; Bangladeshi; General Practitioner)

Obesity, diabetes, heart disease … you are going to spend lot of money on us as we grow older in this country with disability, obesity (PII KII 07 JL; Bangladeshi; Community Project manager - Food & health)

I think at the policy level, I think it's like the Wanless report, at least in this country it's the Wanless report, and looking at the economic costs of ah, you know, poor lifestyles, increasing obesity, the impact it's going to have on the health care system, the fact that it's going to become unaffordable, um, and so, I think that's probably been one of the key catalysts, why this is important at that level. … (PII KII 11 KL; Public Health, PCT)

I presume, it's because of the impact it's going to have later on in life. It's going to have an impact on cardiovascular disease, stroke, and diabetes, so they need to tackle obesity and try and prevent it as well or it's going to have a roll on effect, a snowball effect on all these other conditions. (PII KII 15 WP; Community Dietetic Manager)

There is a significant amount of cynicism regarding policy response in relation to the obesity and diabetes epidemics in that many of the Bangladeshi key informants felt that the only reason action is being taken is due to the financial burden rather than the human impact.

[Y]ou know, it's a bunch of ministers and Department of Health ministers sitting there going, yes this is a problem, it's costing us lots of money, I predict you know, strategists predicting that in x number of years this is how much it's going to cost the NHS and we've got to do something about it (PII KII 12 SP; Community Project manager - Food & health)

Strain on the NHS [laughter] , that's probably what it is, um, and that fact is it's now such a common problem that it is difficult for the government to actually ignore it. If you loos at Tower Hamlets as an example, because you've got such a high concentration of the Bangladeshi community, so therefore these issues are going to top every GP practice, all the hospital and so forth I think, that in itself, I think it's too [emphasis] obvious for the government to ignore, I think

if they could brush It under the carpet they would like everything else, they can't now (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead).

In opposition to other respondents, one key informant involved in national food policy did not believe the economic burden was likely to be as extreme as indicated with health economics being an inexact science which is more likely to over rather than under-estimate costs.

I'm actually not a big believer in health economics because I think if you talk to your figures sufficiently it will tell you what you want it to. If you use statistics properly I do believe them, but I just think health economics, we don't have sufficient real data to put in and therefore you get a wide variation of what you get out, um, and it requires a lot of assumptions for which we don't know the answer to, and so the assumptions are probably the thing that makes the biggest difference and they generally overestimate the impact, in my opinion. As a government official they're very useful and we do use them because it helps guide where we might do things but my personal view is … through no fault of any individual, it will overestimate the impact in some cases. And it's, unless you've got an in-depth understanding of what the assumptions are you could quite easily make the wrong judgement or take the wrong view in terms of how useful something is. (PII KII 06 LL; FSA – Nutrition Division)

The Wanless report was seen by many as the catalyst for the increase in the importance of obesity in public health policy with the economic, societal and human cost of obesity being highlighted. There was some cynicism however that it was the economic burden in particular that was the main driver for change.

7.5 Professional practice

The theme cluster 'professional practice' helps to answer the questions of how contemporary theoretical public health frameworks reflect current practice and the role of the State versus personal responsibility in relation to the prevention of obesity and NRDs.

A range of attributes emerged from the in-depth interviews with key informants in relation to their professional practice as it relates to food choice; obesity & diabetes prevention. These themes are summarised in table 7.1.

Attribute	Description
Challenges	Issues and barriers with respect to implementing programmes e.g. funding; knowledge; community engagement; interdepartmental working; focus. Also issues with respect to changes seen in practice e.g. increased rates of obesity.
Educational role	Education of professionals, organisations, community wrt diet, nutrition, obesity, diabetes
Policy & strategic responsibilities	Professional input into policy and strategic plans e.g. for organisation, local, national. Influence of views on practice e.g. taking a medical versus holistic view to care.
Prevention	Type of work done wrt prevention of obesity and diabetes
Research	Involvement in research relating to obesity and diabetes, including prevention.
Support	Support of others such as professionals and community groups

Table 7.1 Theme clusters: professional practice

Specific research questions addressed:

- What are the gaps between public health policy theory and practice for the prevention of obesity and diabetes?
- Are there gaps between key government reports, polices and practice? If so, what are these?
- To what extent does Public Health facilitate the engagement of Civil Society, into the development of public health policy, locally and nationally?
- Do contemporary theoretical public health frameworks reflect current practice?

7.5.1 Challenges to professional practice

A senior public health professional within Tower Hamlets PCT gave a comprehensive overview of the range of factors that the Public Health Unit and other health services need to deal with in such a unique community and within a rapidly changing national policy environment. Many of the challenges lie with the differing and changeable agendas at all levels; having to work across sectors, including the third sector; and the financial and human resource requirements to set complex strategies in place.

Challenge is that is a very deprived population, the other challenge is has got one of the highest populations of ethnic minorities in the country, very specific population. Create a challenge that any kind of interventions that may of worked else where needs a lot of additional thinking here about how it would work in Tower Hamlets…at an organisational level, the challenge is around working with other organisations... so we have joint targets with the local authority, … and we have …the sort of top level groups for the different work streams …but the challenge is actually to make those groups effective, and work, sort of action groups. The other challenge is, we've

got really good, … voluntary sector, which is brilliant, …but um, there's so much going on that again, we're not aware of everything, and we're not necessarily, um, as good as we might be in actually supporting them when they want to …do more around health lifestyles. They sometimes need a bit of support and we're, you know, I think we can do better on that… That comes to the other thing, our challenge is basically capacity … we're a relatively large public health directorate but when you think about the scale of the problems in Tower Hamlets and what you can actually do, … you actually need a lot more capacity to deliver this. The other things is that a lot of what we need to do is around communication and marketing … we actually need to be a lot more sophisticated about … say for instance around healthy eating, we're up against, ….. huge corporations who've got huge … budgets around marketing, … we need to kind of, at least as far as we can, replicate their methodology, or at least incorporate some of the ways that they look at marketing messages, and we don't currently have those skills. Big buzz word in area is 'social marketing' … and there's kind of the organisational stuff now which is really quite challenging. We've got so many things, we've got like practice based commissioning, we've got this thing called the commissioner, provider split … so it's a kind of different working relationship that we have … much more of a performance management role. … and then the other things is … the elaborate monitoring that we're faced with continually. We've got monitoring form the Health Care Commission which is a big challenge because things come down in a very uncoordinated way and very kind of last minute … Then, in addition to that there's scrutiny which is the scrutiny from the councillors and there's all sorts of ad hoc meetings, … I think it's getting really detrimental to our work … at sort of a senior management level we're just getting, you know, I'll come to my desk … and it's very difficult to get to the important stuff because you're crowded out by urgent things …. (PII KII 11 KL; Public Health, PCT).

The difficulties of dealing with the cultural barriers within the community were highlighted by the Dietitians interviewed, noting that quite often information is more readily received when delivered by a member of the Bangladeshi community who is seen to have a greater appreciation of their particular cultural issues. The apprehension of some health professionals to be forthright in the delivery of information, out of concern at causing offence, was also recognised as impinging on the education provided, suggesting that health professionals need to take their lead from other health professionals with the same ethnic background as the community.

[Y]ou can be an expert as a health care professional, you can be an expert, but I feel people don't really, I think it's human nature, I don't think you've got that empathy unless you're from that actual community, ah, and I can understand why people don't, would take on board, you know messages someone actually came from that community you can relate to as a so called expert. There's always going to be barriers, no matter how good you are. (PII KII 02 NM; National Diabetes Policy, Diabetes UK)

I suppose it's the overall thing of the appreciating the cultural aspects of whoever it be you're dealing with, um, but I do think one can be, um, not doing a particular group, Bangladeshi or

whatever, that many favours if you take that too far and I have seen that in action, people feeling a little bit, um, well I wouldn't say, perhaps not afraid but being a little bit concerned not to impinge to much on the normal way of cooking and eating … but I think you have to, if you were to tell someone from Scotland that they might do better not to do such and such I don't see why you wouldn't do the same with any group, so you need to be absolutely aware of what's going on in that household, but I don't think you can avoid saying what needs to be said, it's just how you do it, is the key. (PII KII 09 ER; Dietitian – weight management)

The other thing I've noticed is that some of the places where there are not necessarily Bengali, but ethnic GP's, um, certainly they are sometimes harder, that's my impression, more forceful about, 'yes you can do that', 'there's no barrier to you doing' so I've noticed at quite a few of the GP practices, patients who see certain GP's, presumably where the GP has felt confident that _ say you need to know, say as forcefully as appropriate what needs to be said rather than always assuming that's a very, very delicate area, but that requires you to know doesn't it? (PII KII 09 ER; Dietitian – weight management)

The lack of human resource to deliver health programmes within the community was seen as a significant challenge, especially in relation to dietetic expertise. This has resulted in lack of accurate information being delivered to the community members, including a lack of adequate training, including quality control, of lay educators who are involved in the delivery of dietary health messages.

[T]here's a lack of, there is a lack of health professionals, there's a lack of dietetic, you know, dietetic service provisions a huge issues, so people aren't getting the right advice from diagnosis so having to reply on friends and family, which is, you know, you can understand, you know, your diagnosed with some long term condition or you want to concerned about health, and you can't have access to a health professional, then you are going to turn to friends and family. (PII KII 02 NM; National Diabetes Policy, Diabetes UK)

Yeah, link workers have their place, it's how to get the complex messages out there, be a different model of work you know, we'd look at and I know as a profession we look at new ways of working, and it's not working at the moment, there is lack of dietitians so, you know, certainly training the trainers is one step, we don't do enough of that, so at least people I suppose are getting basic advice. (PII KII 02 NM; National Diabetes Policy, Diabetes UK)

Slowly, but I think it's not enough, we need more resources to, ah, deal with primary care prevention and I don't think this ten minutes consultation is helpful to pass on, you're dealing with multiple, we need more primary health care workers, or nurses, those that will work in the community with the base in primary care centres who can just do, like a health promotion activities; I don't like that the health promotion department in the past, in the, ah, ELCHA primary care, the community trust, they've all vanished now, I don't see any health promotion department. (PII KII 05 TA; Bangladeshi; General Practitioner)

Lack of policy and strategy directed specifically at obesity, versus associated conditions, was considered a challenge to gaining funding and to programme development.

I don't know whether, I don't think the funding at the moment is being directed to obesity at all. It's being directed diabetes, CHD and all the secondary _ (PII KII 01 DT; Public Health Dietitian, National)

I think nothing specifically obesity … so, obesity may be a factor isn't is so, diabetes … but that's what they do, they never address separate issue … maybe something you need to do, something, you know, we need to de a campaign, whichever, you know, motivation, raising awareness on obesity alone, you know. (PII KII 06 NC; Bangladeshi; Community Project manager - Food & health)

Furthermore, some of the key informants believed that General practitioners in particular continue not to take obesity per se as a disease, continuing only to treat secondary conditions; obesity being a 'personal choice'.

You know we've already got GP's who are saying we'll treat the diabetes, we'll treat the heart disease, um but the obesity for peoples individual choice, … they've decatagorised it as a disease, but yet they'll treat the conditions that are resultant of that. Even osteoarthritis, cancer, they'll treat those but they won't treat the root cause. (PII KII 01 DT; Public Health Dietitian, National)

I don't think even the GP's are taking it seriously that's the _ thing, GP don't say anything if your obese only isn't it. If your, Ok, if your … hypertension they might say OK do this, do this, take the medication, do exercise, but they never say anything if is only [emphasis] an obese person. (PII KII 06 NC; Bangladeshi; Community Project manager - Food & health)

The lack of relatively easy solutions to promoting dietary change considered to be a particular challenge by those working in national food and public health policy at both a societal level but also within current training of health professionals where the focus tends to be on nutritional deficiencies rather than taking a holistic view of food and food choice.

[U]nfortunately, you know, there's nothing much you can do around food that really helps that, because it doesn't translate to an easy fix, that's because it's not an easy fix and chocolate tastes really nice. (PII KII 08 PR; FSA, Nutrition Division)

I think interestingly nutrition has always been badly taught to medical students so I don't remember getting much at medical school except the really extreme, weird deficiencies, you know the sort of vitamin deficiencies, I don't remember very much about a balanced diet and healthy nutrition and the more positive side of it and, I mean I think it's always felt like a much more difficult issue in public health than has say smoking and I think now its becoming physical activity, so smoking 'don't', physical activity 'do' but when you come on to the messages around

food it, it I thinks it's a much more complicated set of messages to get across, so I suppose for me A. my understanding is probably quite patchy, um, and B. as a policy issue I think it's only really only in the last few years that the kind of overweight and obesity thing has really come up the agenda and therefore bringing with it healthy eating and being active. (PII KII 13 VS; Public Health, Regional)

Finally, the challenge of the desire to meet nationally set targets as set out in guidance such as the National Service Frameworks versus working with the community to develop effective and sustainable programmes was seen as a major challenge for many public sectors. Similarly, non-governmental organisations working single-handedly, with their self-defined priorities, were also considered to be a potential challenge to providing an overarching strategy for the community.

[B]ecause of the way the National Service Framework is set out, the targets are in other areas. I know there are NSF's around obesity, around diabetes, but I'm not sure that the emphasis, because of the larger numbers of other things including the financial constraints that are there. … if you've got a very wide remit and you've told you've got to meet these targets and you've got a programme that's always met those targets, you tick the box and you don't worry about it. (PII KII 08 PR; FSA, Nutrition Division)

NGO's tend to focus very specifically on specific areas because that's … why they're interested, um and that's where they get their funding from, sometimes that can be counterproductive (PII KII 08 PR; FSA, Nutrition Division)

7.5.1.1 Funding

The lack of targeted, ring fenced, funding towards health promotion activities, especially in relation to obesity prevention, was highlighted as one of the most significant challenges to professional practice. Even where funding was available, it tended to be targeted towards conditions related to obesity, such as diabetes and cardiovascular disease, rather than obesity itself and therefore money often had to be 'diverted' to obesity prevention programmes even if it wasn't allocated as such. It was also noted that large government strategies as outlined in papers such as the Choosing Health white paper very often didn't have finance attached to them for local programmes to be developed in order to meet targets.

[I]n the prevention programme, the food and health programme in the city, the big issue with that is getting the funding to continue it. It's always been on soft money or external funding and I think that's er one of our problems. I mean I'm still as obesity lead for the country, um a lot of the work we do around obesity is not funded centrally. A lot of it comes from money that we can get, ah get, or purloin. Money that we can get from other sources, either regional funding, but it's not core funding. (PII KII 01 DT; Public Health Dietitian, National)

When 'choosing health' came out I thought right, this is our opportunity to influence policy documents, central, government supported, lot's and lot's of multi-agency working, I think if we're not careful the boats gone. And people are going to start, you know, 'choosing health' didn't work, and my argument will be, if we'd had the money to implement choosing health then we could have done something. But, that was the grave! decision by the department not to actually ensure that the money actually went to where it was meant to be. (PII KII 01 DT; Public Health Dietitian, National)

Others perceived a lack of funding being directed to health promotion activities at all, or at a minimum being wholly inadequate, although variability is seen between PCT's, some, such as Tower Hamlets where there are high levels of deprivation and consequent high morbidity, being prioritised over others.

I don't see much health promotion being funded for the last few years. (PII KII 05 TA; Bangladeshi; General Practitioner)

It's like, how much money do we have for health promotion, and it was something like, I dunno, ten, twenty thousand pounds, for all our campaigns, it just doesn't make sense." …."but in actual fact, this year we've committed a bit more to, um, kind of social marketing (PII KII 11 KL; Public Health, PCT)

A Spearhead PCT are PCT's with the highest levels of deprivation and mortality, there's 20%, and so, they've been designated Spearhead PCT's which means that they tend to get, you know, when the funding, the funding tends to get distributed towards the Spearhead, you know, you get additional allocations. Which means, there's a huge amount going on, there's an unusual number of opportunities and things … Having spoken to people in other PCT's, a lot of them are very kind of strapped for cash, want to do lots of things but can't do anything, whereas here, there's money and you get a real chance to kind of use your public health skills. So, … it's a great place to work but as you say, it's also really challenging (PII KII 11 KL; Public Health, PCT)

Issues around the source and distribution of funding were outlined. Concern was raised at the potential for some organisations to morally compromise themselves in order to gain funding from inappropriate private sources. Whilst lack of quality assurance in distributing funding was raised with the perception that while many organisations compete for funding, they may not all be equally able to deliver the programmes thus the potential positive impact will be reduced.

[W]e used to have a thing called the Health Promotion Research Trust, it was a deal that was done with the Tobacco industry by the conservative government, I think it must have been like early mid-eighties and to be allowed to go on advertising and promoting cigarettes, the industry agreed to set aside a sum of money for what was called the Health Promotion Research Trust, which would then fund research, and it was an absolute flea bite of a sum of money against what there profits were, it was a complete disgrace [emphasis] and I'm ashamed to say that a

number of people took the money, because getting research money is always a struggle. (PII KII 13 VS; Public Health, Regional)

[B]ut it's really looking at grass roots stuff and um, seeing how things can be addressed, because, one of the things that happens with say funding, you know, everything has to be funded OK, so sometimes the message is lost, everyone's competing for that funding, whether you have the skills and the experience to deliver that, um, is beside the point, because it's all abut what you can, if you can write really well, you can write that funding application really well, and you have no experience delivering community based health initiatives you're still going to get that money (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead).

Short-termism at PCT and national level was seen a major barrier to the successful implementation and mainstreaming of health related programmes, much finding only being available as a consequence of budget under spend or due to being highlighted in the latest priority trend, only to be replaced by another in the next funding round.

I'm sure that you can identify funding for all kinds of things, from a community perspective, kind of a non-governmental organisation perspective which I've seen the other side of, and from health promotion it's always about trying to find how the piece that you want to do can attract that funding, which is always short term. Part of what I wanted to do when I came here was to try to identify what the good practice is but make it something that anybody could do, without having to go and get lots of funding. (PII KII 08 PR; FSA Nutrition Division)

I think people like the Lottery, there've got general stuff, um, I think the PCT have sort of very specific funding, the problem again is that the way it works is that the PCT has their priorities, so their priorities reflect their funding, the government have their priorities which … I suppose have come from a combination of you know, the statistics and some form on consultation, so they have their priorities, but these change. We had funding from the PCT one year, we were approached by them saying, 'we've got a huge under-spend in our budget, and we have this priority which we haven't addressed looking at food access and they funded just for two years, but we did an evaluation of the project and said the needs still there, a two year programme isn't going to make any impact on levels of diabetes and heart disease in Tower Hamlets, you have to look at long term strategy, and they … 'it's not our priority this year. (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

Finally it was felt that many members of the community have developed low expectations of services that will be provided due to the nature of funding in that they will use the services whiles they are available but expect that they will not necessarily be ongoing.

[T]hat's a long term programme that loos at, technically if the funding for this programme ended, so people just move onto the next big thing in Tower Hamlets, you know, um, and this will just die out. … and we see that with food coops, you know, and the funding does run out for certain food coops, it has to close, and people I suppose are used to it now, they think the fundings run

out, it's closed, they're quite familiar with the term (PII KII 16 SR; Bangladeshi; Community Healthy Eating Team Lead)

7.5.2 Educational role

A range of views were expressed in regards to methods to provide education to the community from broad public health strategies to more targeted locality based programmes. Awareness raising that was timely, specific and enabled people to implement change were suggested versus campaigns that are likely to simply frighten people and cause them to ignore the issues. This has added further depth to the learning from the community interviews regarding how health knowledge in gained.

I think there's a lot about raising awareness about what cons, what is in the food, and you know, we talk about, loads of people say things like well , the cheap unhealthy food but it isn't, I mean some of the expensive food is very unhealthy, so you know I have a problem with, that, to a certain extent, I think it should be more around raising awareness (PII KII 01 DT; Public Health Dietitian, National)

[I]t's all very well saying to people obesity can you know, if you can delay, you know, if you prevent obesity, you can delay or prevent Type 2 diabetes, well that means something to a health care professional but actually to a person, that general man on the street it doesn't mean anything, so we need to work out how you get health messages out there without frightening people, people burying their head in the sand actually take on board those messages and be proactive and do something about it (PII KII 02 NM; National Diabetes Policy)

[P]eople understand, I think … it's getting the balance right, so the people don't feel demonised, and they don't feel overwhelmed with too much need to change. You know, maybe we, the projects ought to be more focused on particular change, I don't know, I don't know, maybe five a day was fairly effective, people got the knowledge that leads to change in behaviour, whether we need something that follows that along now that focuses on fat, or salt (PII KII 14 AN; Food Policy Dietitian National, Non-statutory)

Taking programmes to community venues where they can be combined with other social activities, such as at food cooperatives, was seen to be a popular educational tool, as was the use of trained members of the community in the development and delivery of health awareness programmes.

[T]hat was the idea really and to not just have it as a shop really but we, the idea was we had a dentist come in, we had um, you know, people, we had some massage sessions, we had people advising on general healthy eating, so, and we would like a café there or like to do, we had a smoothie bar as well. So the idea was people could come, stop and chat, meet their neighbours and also access healthy fruit and vegetables, we had some cookery classes too.

Just, so, you now, people would be encouraged to eat fresh food (PII KII 04 LC; Community interfaith co-ordinator)

So for instance, um, laps one and two, sort of Spitalfields and Banglatown, there's an organisation called Elite Youth. Actually this is an intervention focused on the adult population. Their role is to recruit health trainers and people from the community. It's quite entry level, people who are possibly long term unemployed …or don't necessarily have a lot of ah, academic qualifications. We have a training programme at Tower Hamlets college, an accredited training programme so we're training them up. … The idea is that they promote physical activity … smoking cessation, diet. Their other role will be around signposting people to health services, and they will have a role around, um, providing information around diabetes and stuff like that. (PII KII 11 KL; Public Health, PCT)

I manage a project where I've trained local people, including local Bengali people, and they go out into their communities and they will talk about, diabetes is a big one actually because um, the health guide sessions, the local people decide what information you bring to the group, so that each course of health guides sessions differ, but for the Bengali community, healthy eating and lifestyle and exercise is really big and ah diabetes, they want more information about it, and how to manage it and how to control it. Um, so my role one, is providing that information either myself or through the health guides. (PII KII 12 SP; Community Project manager, Food & health)

These responses to in relation to education emphasise the importance of involving the community in programmes, and taking the programmes to the community, to ensure the most effective interventions are in place.

7.5.3 Policy and strategic responsibilities

With the key informants coming from a wide range of professional backgrounds, the purpose of this line of questioning was to ascertain what their professional capacity was to input into policy and strategic plans, whether that be locally for their particular organisation or at a regional or national level. I was also interested to determine what influence their views may have on practice such as taking a medical, individually orientated versus holistic, societal view to obesity & diabetes prevention.

The research question being addressed was:

- To what extent does Public Health facilitate the engagement of Civil Society, into the development of public health policy, locally and nationally?

The variation in policy and strategic responsibility of Dietitians was revealed in the interviews with those who have a predominantly clinical role to those who lead in national policy. At the clinical level it was noted that there was very little engagement with policy and strategic direction

and felt that the policy guidance coming down from government was too onerous to be of use in practice.

I think if you actually read them I don't … and you were the policy maker in the Trust or similar sort of level, I think you wouldn't really know where to begin because they're overly ambitious from what I can see. (PII KII 09 ER; Weight Management Dietitian)

Those with Public Health responsibilities however saw their role in the implementation of government policy and NICE guidelines by incorporating into the Local Development Plans and auditing activity against these guidelines rather than actually influencing their development. It was noted however that in implementing government policy, the work being done by the dietitians is becoming less ad hoc and reactive than in the past, now with greater partnership working with the Public Health unit in strategic planning for the Primary Care Trust (PCT), and plans to work with organisations outside of the health sector, such as the strategic health authority to enable a more coordinated approach to prevention work.

[H]aving to approve what will be the obesity strategy in Tower Hamlets which will link in with the NICE guidelines and so that will be part of it … we're changing it so it's much more strategic. So, we'll be looking at food access, implementing and helping to draft the policies, focusing on what the public health dietitians are doing. I think it's going to be really important that we're linking with town planners and maybe not getting down to the nitty gritty of 'oh, I don't think you should plan this' but I think we need to be involved to maybe look at ways we can encourage the council or retailers and manufacturers and council to go down a healthier route, maybe to put award schemes for healthy retailers, that kind of, things that are practical and health based, but can be implemented by the council around access and things as well. (PII KII 16 CR; Community Dietetic Manager)

At a national level the role of the dietitian is seen as raising awareness amongst the profession and driving involvement in policy development.

As BDA Food and Health Policy Officer, if I describe that role … it's about identifying what the policy issues are and raising the awareness in the profession. So that people can react to them, so the profession is identified as a key informer to policy. (PII KII 14 AN; Food Policy Dietitian, National)

The Public Health strategic leads within Tower Hamlets PCT, together with their role in data compilation and prioritising the needs of the community, recognise the importance of addressing the wider determinants of health such as education, housing and planning but highlight the immense difficulty in joining policy from the different areas. The current focus within the PCT is on social marketing and segmentation of the community to tailor information delivery and education, especially in relation to prevention, in line with the governments' personalisation agenda with personal responsibility emerging out of informed choice.

Around diabetes it's the public health role which is information, epidemiological information, health needs assessment around diabetes which is around looking epidemiology in relation to the demand for services and the use and supply of services and trying to bring them all together.

[L]ike there's … fried chicken shops on Whitechapel road, we don't need any more, but we could do with something that offers some healthy options, … but how do we do that? No one seems to have given me an answer really.

[t] needs to be integrated into the planning process … and I guess that's one of the issues is, you know, you're working in a PCT, um, it's difficult to talk to the right people … you need really, really high level sign up, you know, right to the top of the local authority, ah, to be kind of driving all this or else you get no where really.(PII KII 11 KL; Public Health, PCT)

Non-salutatory organisations such as Diabetes UK are able to influence and shape policy at a national level via responding to public health related consultations such as NICE obesity and physical activity guidance, as well as gathering expert opinion, using for example a professional advisory council which is a mixture of diabetologists, GP's, practice nurses and dietitians. There is also a role in consulting across agencies such as with the Food Standards Agency such as on the Traffic Light Labelling System and Nutrient Profiling, and the Department for Children, Schools and Family (DCSF) with respect to the School Food policy.

Qango's such as the FSA see their role in the provision of information as part of the prevention agenda but not relating to any specific disease state which is seen to be the responsibility of Government. And, whilst the organisation has a remit for strategic planning and national programmes it was noted that as with many organisations there is still the tendency to funding small interventions. With this noted however there is increasingly an effort being made to focus on information sharing so that even though there may be small interventions the outcomes of these can be joined together in an information bank to enable others to learn from their experiences.

[T]he agency's role is about providing information about healthy eating and achieving a balanced diet, but not specifically things to do with ill health. So we can talk about prevention and the maintenance of body weight and things like that but we can't talk about obesity per se' and we can't talk about diabetes per se' … Then my role, I thought was to come into government and do something to sort out to do something long term strategic, that would make a difference, though I' have probably created a large number of small interventions [laughs]. But the aim is to use the interventions as an evidence base to try and do something more widely and share that learning, rather than fund all of the _ work, so the ideas is to make … a impact, by identifying good practice, sharing that and trying to get other people to sign up to that. (PII KII 08 PR; FSA, Nutrition Division)

At the grass roots level there was emphasis on the need to work within a community development model, to engage with the local community so that they drive the direction of any services provided and therefore take ownership which will in the long term lead to sustainability of programmes.

I believe in the community development model, so working with the needs of the local people, working on their terms, because I think that's how were going to get something consistent, that's how we will be able to work towards prevention, by working with them, not at them (PII KII 12 SP; Community Project manager, Food & health)

[T]he whole idea of food access was to work sort of bottom up, so work at a grass root level and you know, community organisations are sort of ideal for they type of work. (PII KII 16 SR; Community Healthy Eating Team Lead)

7.5.4 <u>Prevention</u>

In relation to the research question, what are the gaps between public health policy theory and practice for the prevention of obesity and diabetes, a number of the key informants, from those working directly with the community to those involved in policy at a national level noted that there is a changing direction in health improvement at all levels, from one based on the management of disease to primary and secondary prevention / early management.

I think we need health campaigns, which reaches more wider than just primary care. Campaigns in the community, having bazaars or something like that. (PII KII 05 TA; General Practitioner)

[I]t's mainly prevention … so when we do that programme, the aim of programme … to help people to train people to change their lifestyle so they can reduce the risk factors of like obesity and smoking issues and diet issues (PII KII 06 NC; Community Project manager, Food & health)

Also leading on the health trainers' programme which is a programme around primary prevention. This is an NRF programme and on a locality basis have commissioned third sector organisations to host the health trainers. (PII KII 11 KL; Public Health, PCT)

[C]ertainly management, traditionally as an organisation for my four and a half years of being here has been a huge area but now prevention is one of the organisations key objectives in the new three year business plan, so many of our projects we've started this year are starting to look at prevention as well. (PII KII 2 NM; National Diabetes Policy)

[I]t feels to me as though some of the big lobbyists have got much more into prevention of late, so, when something like the British Heart Foundation who classically used to do a lot about treatment, um, I think has become a very powerful force for prevention, and probably things like the professional bodies, the medical royal college's, have got much more switched in to 'we

can't just go on diagnosing and treating we have to get upstream'. (PII KII 13 VS; Public Health, Regional)

7.5.5 Research

Looking again at the extent to which Public Health facilitates the engagement of Civil Society, into the development of public health policy, locally and nationally, the comments in relation to policy research tended to centre around the need for greater understanding as to the drivers of food choice within society in order to be able to develop more targeted prevention programmes and interventions. It was also noted however that there is a tendency for large scale research to focus on the Caucasian population due to the greater numbers, rather than the minority ethnic groups, leading to a considerable segment of the population be left out of policy work. The government is now beginning to focus on inequalities which resulting in more targeted research into both deprived communities and those from ethnic minority groups. This also includes increasing community involvement to inform policy direction, and gaining insight into the issues from those that live them.

We need to understand more about the behavioural side of food choice, and, and it's food in society as well, it's position, because it has very different positions within different families, and you know, if you looking in, you look at low income, you look at high income, the attitudes to food are very different, ah, and, so I think it's about understanding the drivers behind why people make the choices they do at different levels, not assuming that there's one section that does one thing, that's the same for the rest of society. (PII KII 01 DT; Public Health Dietitian, National)

[Y]ou know for example our awareness campaign, um, we've got a project this year, a lot of our projects now, a lot of one year project, one year, two year, three year, first year scoping, second year pilot, three years evaluation, and we're actually looking at how you can get messages, effective messages out there (PII KII 02 NM; National Diabetes Policy; Diabetes UK)

Research programmes that I run called food acceptability and choice, and food choice and equality, and they actually try to deal with those four areas as a way of dealing with the fifth one. Right, now, food acceptability and choice is a general programme looking at the barriers to achieving a healthy balanced diet, food choice and inequality was specifically set up to look at low income in ethnic minority groups, because, if you put a research programme out as a food choice, food acceptability and choice, in order to get some nice statistical numbers you go for the biggest group you can find which will in the end be a nice white, even if you go for _ groups, it tends to be mainly Caucasian, so we decided to set up a programme that specifically said in low economic ethnic minority groups, where the methodology will be slightly different, or where you would specifically focus on a particular community, in order to make sure you've got kind of evidence base that you can use for policy development. (PII KII 08 PR; FSA Nutrition Division)

A comment was made about the perception that people don't understand the issues, are ignorant, uneducated or simply not bothered whereas in reality, and to the surprise of some, when the community has been engaged in grass roots research the views they held were actually very 'sensible' and often reflected those of the health care professionals. It was acknowledged that many of these prejudices were often very offensive.

[W]e've just been working out this bid for the lottery fund, I don't know if you've come across it, it called Well London, and it's a bid for ten million pounds for London to work in twenty of the most deprived, um, local areas and basically to try and reach the people that haven't been reached over the last ten years by a whole series of government programmes, so, the families that SureStart hasn't reached, how do we get to them in terms of healthy living of one sort or another, and they've been using a series of different approaches to consult, because we've had to do it all very quickly of course because you do, but trying to use established groups, just sort of use them as sounding boards, but they've also done things like, um, community cafes which seems like a really effective way of … I was talking to one of the people who've done it and he said, you know, I found myself sitting at a table like this with three teenage boys, and when can you ever, unless it's your own kids, when can you ever talk to three teenage boys about health? You know, it's not what they do, and I think there was some music and some coffee, I don't think there was anything more exotic than that, they'd obviously got nothing better to do , and he said actually the stuff that they had to say we don't capture, um, and that's just one tiny example of, and I think we have to just get much smarter at it, and it took three hours, you know, and a bit of organising, but it was really no big deal, it's not an expensive way of consulting with people you don't need to pay a public relations company to spend a fortune on doing it. (PII KII 13 VS; Public Health, Regional)

7.6 Policy debates

To different degrees, dependent on respondent experience and professional role, views were sought on what the key informants felt has been the tipping point for current obesity and diabetes prevention policy; corporate versus government versus personal responsibility in food policy; who they consider to be the key influencers of policy and who holds the power and specifically on a number of key current or potential policy strategies such as regulation of advertising, environmental change (for example to the retail landscape), taxes and food labelling.

This section aims to further contribute to answering the research questions:

- What are the key policy issues and drivers for obesity and diabetes prevention in this community?
- What is the role of the State versus personal responsibility?
- What are the gaps between public health policy theory and practice for the prevention of obesity and diabetes?
- Are there gaps between key government reports, polices and practice? If so, what are these?

- What are the consequences of government policies and programmes to date?
- To what extent does Public Health facilitate the engagement of Civil Society, into the development of public health policy, locally and nationally?

Table 7.2 provides a description of the theme clusters relating to policy debates discussed during these key informant interviews, the finding for each of which shall be provided in turn.

Attribute	Description
Tipping point	What key informant sees as the dominant issue effecting the tipping point wrt changes being seen obesity / diabetes and prevention policy
Corporate role & responsibility	Responsibility of industry e.g. manufacturers and retailers; what can the industry do to help improve health
Government role & responsibility	Comments made in relation to being the governments responsibility to make changes to enable diet and lifestyle changes in the community. Government interventions e.g. food labelling; advertising
Personal role & responsibility	Comments made in relation to being personal responsibility to make changes to diet and lifestyle.
Ethical debate	Impact of policies - what are the ethical consequences e.g. of fat taxes; social marketing
Evidence	Use of evidence in policy - research or professional knowledge etc. Role of the precautionary principle
Influencers	Who is influencing policy - top down / bottom up. Role of lay knowledge.
Optimal default	Specific comments made re: making the healthy choice the easy choice whether it be wrt to food or activity
Power	Who has the power e.g. industry versus government; community pressure groups

Table 7.2 Theme clusters: policy debates

7.6.1 Tipping point

The unanimous view was that the financial burden to government was the tipping point for obesity moving up the policy agenda, perspectives about this however differed. This view was also considered in section 7.4, burden of disease.

Generally those involved at the grass roots level, although not exclusively, believed that government was forced to begin taking action because of the enormity of the issue rather than any concern for the societal or individual burden. Others highlighted the enormity of the issue in the fact that obesity and related diseases such as diabetes are now being classified as occurring in epidemic proportions, especially amongst the socially disadvantaged and migrant communities such as those from South Asia which was is having both a human and fiscal cost.

Cynically I'd say cost, I think cost is a huge drive because we are all constantly, and I'm sure other organisations do, well I know they do, they sort of quantify the costs of obesity related diseases and the cost to the NHS in terms of length of bed stay, cost of operations, and ah, I know the government at the moment, you know there's a lot of talk at the moment to ay people of a certain body mass index, then they can't be eligible for certain, um, operations, because of additional cost and it's seen as a lifestyle choice to become that way (PII KII 02 NM; National Diabetes Policy).

Well, because the incidence of diabetes world wide has increased and the prevalence rate in the country, the western countries, especially in well America, the childhood obesity and diabetes, Type 2 diabetes, a disease of elderly, has become, is increasingly become at a younger age. Within migrant communities, like South Asian, umm, countries like UK, the disease prevalence is 4-5 times higher, the issue, the whole issue of the health care costs is very important, not only to the health service but also issues about health care costs to each family in terms of diabetes, loss of work, _, so I think the diabetes, Type 2 diabetes, the disease of the 21st century, it has overtaken, in terms of mortality, overtaken HIV. It's a huge issue. It's not only a disease of the rich man, it's a disease of the poor man…There's the human cost of the disease but also, you know, the financial cost to states. (PII KII 05 TA; General Practitioner)

To be honest it's the government because it's cost them a lot of money isn't it? Because those people use secondary care more than normal healthy people, the people with this kind of _ would access the services more often isn't it, they're the frequent flyer isn't it, so, obviously the government is doing it because the cost is an issue isn't it. Obviously it can save lives as well isn't it, you can reduce the death rate from heart disease, so … people with diabetes … if at the same time, if they're obese they're more at risk of having heart attack isn't it or both high pressure and diabetes and if they smoke they got eight times more risk of having a heart attack, so, you can reduce the risk … you're talking about saving lives as well. (PII KII 06 NC; Community Project manager, Food & health)

Strain on the NHS, that's probably what it is, um, and that fact is it's now such a common problem that it is difficult for the government to actually ignore it. If you look at Tower Hamlets as an example, because you've got such a high concentration of the Bangladeshi community, so therefore these issues are going to top every GP practice, all the hospital and so forth I think, that in itself, I think it's too obvious for the government to ignore, I think if they could brush It under the carpet they would like everything else, they can't now (PII KII 16 SR; Community Healthy Eating Team Lead)

Those more involved in the policy arena however felt that the Wanless report was the tipping point as it focused on the wider determinants of health and noted obesity and health inequalities as being the key threats to future health as a consequence of both the direct and indirect costs to health services, national productivity, individuals, family and society as a whole. The

government certainly recognises the cost and in terms of priorities is moving up the political agenda especially as there are synergies with other policy areas e.g. climate change.

I think the tipping point is that the governments changed its stance. I think there's been lots from er um, I think Wanless had a big, big um, push, I think choosing health had a big push, and I think awareness now within government erm, and that's pushed to, to highlight obesity, and I'm going to say highlight because I don't think that they are actually totally in the real world with what that means put into practice. (PII KII 01 DT; Public Health Dietitian, National)

I think at the policy level, I think it's like the Wanless report, at least in this country it's the Wanless report, and looking at the economic costs of ah, you know, poor lifestyles, increasing obesity, the impact it's going to have on the health care system, the fact that it's going to become unaffordable, um, and so, I think that's probably been one of the key catalysts, why this is important at that level. (PII KII 11 KL; Public Health, PCT)

I think the tipping point was probably Wanless and the economic consequences of obesity that suddenly everybody realises that this really was a time-bomb, that it wasn't just health it was about the whole economy and being affected by this, so I think that was probably when government decided to do something about it. (PII KII 14 AN; Food Policy Dietitian, National - Non-statutory)

7.6.2 Corporate role and responsibility

The key informants all agreed that there needs to be greater corporate responsibility to help enable people to make healthier food choices as they were seen as having a major role in the proliferation and excessive of many of the unhealthy choices currently available. Whether this responsibility was via a voluntary code or via statutatory enforcement was unclear with many seeing the former preferable but within specified time frames for action. It was also recognised that whilst there is a large amount of poor practice within the food industry there were positive changes being made which may be a consequence of changing consumer demand. There are also opportunities for the food industry to be proactive in engaging with the public and making large scale changes which would have population wide effects such as working with the FSA on the reformulation of processed foods, and improvements in the way the catering sector promotes the healthier options. The difficulties of working with industry due to differing agendas were however highlighted.

[C]orporate companies, food manufacturers in terms of super sizing, labelling not being very clear, unfortunately food manufacturers aren't all adopting the Food Standards Agency Traffic Light Labelling System (PII KII 02 NM; National Diabetes Policy)

I do believe though that there is a role for the catering sector to look at, um, how they present food when they're serving it and also about cost differentials between them, um, and that's

something that we do think there is a role for major employers, major institutions to think about. (PII KII 08 PR; FSA Nutrition Division)

I think if you look at what's happened with food and food industry, um, I don't suppose it does much good to dwell on how we got to where we got, but until food is differently available to people, I think we're in for a long haul really. So, I think until there are acceptable alternative foods, I don't know how they would come or how they would be, I think we're, things are quite desperate. So, food industry and governing bodies that may have an effect on _ I'm sure there are things that we can do, definitely, but both does seem reasonably, well one would have to be very pessimistic on both of those sides I think, really. (PII KII 09 ER; Weight Management Dieititan)

I think they've got a huge responsibility, yeah, and all the stuff that goes around, kind of growing the wrong things and doing the wrong things with it and promoting it in, I mean really dreadful some of the stuff, um, and I've always had problems with the extent to which you can work with some of these industries, and the extent to which you just have top say 'no way'. It's going to be quite an interesting issue with the 2012 games 'cause obviously McDonald's and Coke are amongst the sponsors, and were going to have to find some way of working with them because that's not negotiable…And just ways of getting fresh fruit and vegetables into some of the food deserts as well, and food co-ops clearly aren't the answer, I mean, you can scratch the surface can't you but, you know, what do you have to do to get Ocado to deliver affordable fruit and vegetables on a regular basis, whether it's you know, they take it to one place and leave them there and people come and collect, I don't know, but somehow we got to, I mean I think some of the food co-ops are fantastic but that got to become the main stream hasn't it (PII KII 13 VS; Public Health, Regional)

I mean the advertisers have such a huge budget that you wonder where, where it does stop in terms of, obviously if they can … spend two million on advertising a product, then two point two million may be wroth it still, I don't know where the economics argument is there. (PII KII 14 AN; Food Policy Dietitian, National - Non-statutory)

I think we need to look at the retailers as well, where they're positioning the different foods in the shop and … how much each area has got with in comparison with like healthy foods compared to the not so healthy foods, how much of the shop in taken up by these different things. I think they're getting better, I think they're now starting, I think a lot of the major supermarkets are starting to offer like fruit and vegetables, choose one each week that are maybe going to be lower in price and all the buy one get one free that kind of thing, so I think they are improving but then saying that you'll still get the buy two packets of biscuits for the price of one so yes I think maybe they have gone up on the fruit and veg but they haven't reduced the other ones … it isn't the best balance really (PII KII 15 WP; Community Dietetic Manager)

7.6.3 Government role and responsibility

The two main themes emerging from the interviews with respect to government role and responsibility were the need for planning policy and the need for statutatory regulation. This was within the context of recognising that policy needs to move past the individual and cross agencies such as media, and transport as well as health.

I think the big difference is it's gone across government, rather than it just being a health issue, so it's been recognised that you actually need to look at transport, you need to look at planning, you need to look at media, sport all those things … so I think it's just been recognised as this bigger problem and it just can't be sorted out by individuals. (PII KII 14 AN; Food Policy Dietitian, National, Non-statutory)

With respect to planning policy the focus was on enabling local authorities to limit the number of high fat take-away outlets within a defined area which are seen to be endemic within deprived communities whilst at the same time there is a vacuum of healthy options.

There are certain things that should be done, planning policy, that fast foods should not [emphasis] be allowed near schools, and certainly burger vans shouldn't be outside schools. I'm sure that, I thinks there's are things that can be done through the umm, you know, the bigger sort of planning of where, um, institutions are based (PII KII 01 DT)

I mean especially around here, you know they've got quite a lot actually now days, got a lot of fast food, fish and chip shops and donor kebab places, it's sort of like taken over at the moment, I think that if they, if the government banned it or said maybe two per area, I think because there would be places for people to go I think they'll be more likely to sort of make foods at home or go for the healthier options. (PII KII 10 MK; Community Nurse)

I think in Tower Hamlets it's got the highest number of chicken and chips places than in any other borough per square metre; that's ridiculous, so that's local authority I think, I think that's the responsibility of local authority in terms of planning. I think in Hackney it's the same and the local authority there actually, the local scrutiny has taken that as there um, as one of their, their issues that they're going to look at this year, because they're really concerned about it. (PII KII 12 SP Community Project manager, Food & health)

The second theme of statutatory regulation was seen to be most important in areas relating to the food industry such as front of pack food labelling, where the voluntary code is being seen as ineffective and limiting the choice of unhealthy options.

The Food Standards Agency, an independent government body for their Traffic Labelling system for example, but it's voluntary and it's not statutory and you just feel well, I think sometimes well it hasn't worked in terms of labelling, the food labelling at the moment and

Diabetes UK as an organisation we are keen for it to be statutory as opposed to voluntary (PII KII 02 NM; National Diabetes Policy)

I think, bottom up approaches are good, but I think you need regulation in a free market economy, where, you know, people are basically allowed to choose what they like, and ah, the government has the sole, _ doesn't bring regulation in it, it's very difficult to just use health education materials to improve health. Like in terms of smoking, we need to use regulations, but I don't, I think public good, health is not just an economic, it's the public good, and public, government has the responsibility in maintaining public good, and that is in terms of regulation, legislation even, is, is, important. (PII KII 05 TA; General Practitioner)

Well I suppose the voluntary approaches just don't happen do they? … so that's all I can really comment on that so, if the government um, reflects what the population want because they've put something in their manifesto and people have voted it then it would have to come from them because voluntary things won't _ affect their profits are they? (PII KII 09 ER; Weight Management Dietitian)

7.6.4 Personal role and responsibility

Personal responsibility whilst considered an important aspect of any health policy and in determining the choices made however for the majority this was set within the context of the myriad of factors that also impact on the choices that we make and thus the complexity of food choice overall.

[I]t's a difficult job but it's certainly not a person being lazy, not at all, you know, there's so many factors and it is a complex … issue. (PII KII 02 NM; National Diabetes Policy)

Having seen people with severe problems, clearly their food related behaviour is largely out of their control, so, um, it isn't a simple sort of, 'come on get a grip and do something', it's very obviously not that (PII KII 09 ER; Weight Management Dietitian)

But I think also, Choosing Health, you know, the White Paper hasn't necessarily helped, because it was supposed to be, you know this great public health white paper and it's focus on individual choice which is I think important, but actually there is a much wider picture. (PII KII 11 KL; Public Health, PCT)

I think probably it sits somewhere in the middle actually, but um, you have to get the environment right to support people to make the right choices but ultimately people have got to want to make the right choices themselves, so you've got to make it easy for them but there's still got to be a change in behaviour, that's got to happen. (PII KII 14 AN; Food Policy Dietitian, National, Non-statutory)

So from my perspective, it's about food culture again, it's about getting people to think about what they're eating and why they're eating it. And if they want a take-away that's fine, but let's make it a choice of what you're eating rather than that's the only one there. Let's also make it a choice of them knowing what the healthier options to choose when … I'm not saying don't have something that's high in salt, fat or sugar ever, I'm saying have an active choice about which ones you want (PII KII 08 PR; FSA, Nutrition Division)

It was also noted that whilst people do make poor choices these are not made in order to become overweight or develop diabetes but rather these are an unfortunate consequence. But there were some who felt that the consequences need to be actively considered rather than simply allowing passive consumption and inactivity.

Well, I don't think, well, I suppose, ah, do people choose to be fat? I think people choose to make the wrong choices, but they don't choose to be fat. (PII KII 01 DT; Public Health Dietitian, National)

But I just, I think people need to take control a bit more of their lives and responsibility and um, you know, and … people are more overweight, and I think it's more acceptable these days and nobody ever says anything about it, you know, if attentions drawn to the fact that … you're going to have a lot of health problems, you might have to pay for it, I haven't got a problem with that personally. (PII KII 04 LC; Community interfaith co-ordinator)

Yeah, everybody's got a role… I do think that people are lazy, me included, and given an option of not walking up the stairs I'll get the lift (PII KII 08 PR; FSA, Nutrition Division)

No, you can't leave it entirely to the government, if you are hungry only you know how much you need to eat, I can't tell you, no one can. You have to take responsibility, everyone has a responsibility from the government to the local council, the community. If the community talk about their needs the government will respond. (PII KII Female Imam LN)

7.6.5 Ethical debate

Ethical issues were raised in relation to the limiting access to health services, such as surgical procedures for those who are obese when the outcomes are expected to be sub-optimal. The key informants overall felt that this was morally inexcusable, raising the question of where this type of restriction on access to services would stop, as well as reducing an extremely complex issue to one of individual responsibility alone. With this in mind however restrictions based on genuine concerns for adverse clinical outcomes were considered acceptable as are any other contraindications for a defined intervention.

There are quite a few, these are ethical issues there, I'm not sure whether it contradicts NHS ethics. So, I think there is a way of using pressure, but how much, how much we'll gain by those I don't know. Whether a policy which penalises doesn't, hasn't really worked, if you look

into alcohols, _ and others, drug addiction, just penalising polices haven't really involved people _ what means they go more out of the system, that's my personal view, when you start sort of penalising particular groups for their habits or their social ills, like sexually transmitted, they're going to go underground, I don't think that's good public health policy. I think what you need to do is use a, [pause], few policy that works together and use a carrot and a stick to _, getting people involved, and you know, I think that will work. I'm not particularly too much into saying, oh, we won't treat anyone who's obese and has got diabetes, I don't think that, it might be in breach of human rights regulation (PII KII 05 TA; General Practitioner)

I think it's just … it's just capacity to benefit really … if someone's really obese and is due to go for an operation … and in actual fact the obesity in some way might impact on the outcome, ah, then that's obviously a consideration, but I think the circumstances that produce that shouldn't have a bearing on it … so you can't penalise someone, you can't say look 'you obese therefore you don't deserve treatment'. (PII KII 11 KL; Public Health, PCT)

The impact of poorly implemented policy was also noted to have sometimes unforeseen negative consequences to the very groups that policy is trying to support as demonstrated with respect to the standards imposed on schools for catering.

[W]hat happened was that the standards got imposed in school, before all the other bits were put in place to support it, so actually the lowest earners in schools are the people losing their jobs, so the school dinner ladies, the caters are actually losing hours, losing jobs because numbers have dropped and so the most vulnerable within the school community really are the ones that have been actually hit the worst by the policy (PII KII 14 AN; Food Policy Dietitian, National, Non-statutory)

7.6.6 Evidence

Those key informants working at a policy level unanimously felt that there needs to be a move to using different types of evidence, such as the informed opinions of stakeholders to ensure contextual relevance and practice based evidence based on the precautionary principle in order that progress is not impeded as has been so often the case in policy development. In this context, there wasn't a move away from quality practice but rather there was the acceptance that some interventions may fail but the emphasis should be on monitoring interventions and evidence collection to determine which measures are successful, which are not and which may be promising and then sharing this information with others.

Well we do, we have to use the precautionary principal, that's the best that we've got, so you can only use that, but it would be good to see that research was going on to actually test those out even more and I think we're beginning to see that (PII KII 01 DT; Public Health Dietitian, National)

And sometimes you know, an area like obesity for example, you now, you could be waiting for yours for, you know, the right evidence and that's been an issue because people haven't, um, got on with it, and so you do have to go with best practice because, especially in terms of nutrition, to get evidence on what is the appropriate diet, or physical activity to help with weight loss r help manage a person's diabetes, there's so many factors affecting the nutrition, you just have to really go on best practice or consensus of experts because you want wait ant longer, and I know that's been a problem with some of the government led policy areas of obesity, certainly children, you know they come under a lot of criticism because their still doing all the scoping … scoping the draft document only came out sort of nine months ago and they're only got a few more years left, and then there'll be another change of government probably and then it will be wasted, just get on with it. (PII KII 02 NM; National Diabetes Policy)

'Cause they changed, you now, for systematic reviews, they changed the kind of traditional way of looking at it, so you know, it's like RCT's, RCT's, you know, because they recognised in actual fact that , you know, sort of Public Health interventions aren't necessarily easily, um, put with in the RCT framework. And, so, they've got a new set of criteria … which is not just based on RCT but it's based on other forms of evidence and kind of people's general consensus about things, so … I think there's a balance … if there's something everyone feels yeah this is something we should try, then, you shouldn't kind of be paralysed by the evidence base, … you … obviously should be … if you are going to try something, pilot it, evaluate it … if there's good enough, if there's a sense that this is going to work and you know, everyone around the table agree, then … it's important to try new things, and then I guess it's like … you try something and then it fails then you try something else really, but you don't do it blindly, you sort of do it 'I have a sense that this will work. (PII KII 11 KL; Public Health, PCT)

And the evidence is so much weaker isn't it for like, um, shifting community behaviour, I mean it's very easy to see what happens if your give somebody a medicine but, um, I, I think that's right, and I think it's one of the things that NICE is struggling with at the moment, it's how can they balance the weight that they give to the you know, the posh randomised controlled trails as opposed to the evidence which they give to um, you know, professional consensus or, community consensus when it comes to that, and I, I think moving that chunk of work into nice has actually been a very good thing to have done, because it's made that discussion happen, whereas before NICE was just doing the pure end of the market and the Health Development Agency was struggling with everything else, we've now put the discussion into one place, I think it's quite uncomfortable, but I think they are going to have to find a way of saying that common sense would suggest that, um. (PII KII 13 VS; Public Health, Regional)

I think Wanless said didn't he that we shouldn't wait for the evidence, we've got to create the best … practice, and learn from that and generate the evidence from that because it's, you can't wait ten years to see what's actually the most effective way of doing it. (PII KII 14 AN; Food Policy Dietitian, National, Non-statutory)

7.6.7 Influencers

Policy was considered to predominantly top down being principally influenced by government itself through the production of standards and guidance documents and, then to a lesser extent non-statutory organisation such as Diabetes UK and Health Care Professionals.

Other significant influencers were thought to be the food industry through its perceived influence on the Government directly and regulatory bodies such as OfCom.

Well I suppose it is the government, because the government through NICE, um, have looked at obesity for example, and got a guidance out on obesity and physical activity and you know, doctors, health care professionals do follow NICE guidance so it's _ in bariatric surgery what BMI's appropriate; physical activity guidance, now, exercise on prescription, um, is only recommended if it's part of a research programme … we've had to change our messages as a result of that, for example you can't just ask your GP about exercise on prescription, you have to put comments that it can be useful … need to check with the doctor that it's part of the research programme, so the government, with their … documentation on obesity does influence because people do adopt that, and I suppose the guidance that's coming out as part of education in schools for example, food in schools policy, that's shaping it as well. I don't know, who is influencing who and maybe they would have been a bit tougher if food manufacturers weren't influencing government so much. OfCom's meant to be an independent but, um, it certainly didn't seem to be not at all, ah, and I know the National Heart Forum _ it's a umbrella organisations and we're members, they actually had to get quite heavy handed and threaten legal action, it got over turned. A lot of pressure needs to be _ organisations such as ourself [sic] so um, you have to be careful, you have to sort of be very, not miss anything, make sure you always respond and you know, make sure we go to the Food Standards Agency meetings because, you know, Sainsbury's, Asda, other organisations are all there, all able to be represented as well, so you just have to make sure you get involved. (PII KII 02 NM; National Diabetes Policy)

Well I think professionals, you know, health professionals, Doctors and Nurses and Dietitians like yourself and others, but also on a policy level, you know, policy groups like the Kings Fund and other, the Diabetic, you know, UK, _ and also some of the universities are pushing the direct link between food habits and diabetes, and chronic diseases like heart disease and ah. I think there is a shift, and politicians are very worried about the implications, because it slowly, it's eating away into their budgets (PII KII 05 TA; General Practitioner)

Well it's really top down isn't it, you know, it's a bunch of ministers and Department of Health ministers sitting there going, yes this is a problem, it's costing us lots of money, I predict you know, strategists predicting that in x number of years this is how much it's going to cost the NHS and we've got to do something about it rather than local people going actually this is a real concern, our children you know, I'm worried about the world being with my child, you know, the

risk of diabetes and, it's not coming from the bottom, and it should come from the bottom (PII KII 12 SP; Community Project manager, Food & health)

While lay members of communities are increasingly being recognised being the foundation on which good policy should stand, many felt that currently there is often the intention but not action. Responsibility for this was not only laid with those higher up in policy but also with the community itself who were considered to be ignorant to the issues and thus not interested in participating.

I think it's still <u>only</u> in research and academic level, I think , mmm, community groups still hasn't got the voice as much in terms of shaping policy, in terms of obesity and dietary, it hasn't had that sink as yet, it's still very much quite, I won't say ignorant about it, but I don't think, ah, it has been the priority within community groups (PII KII 05 TA; General Practitioner)

[I]t's down to actually really understanding their reality I think. … if you think about it, you've got you know like a fifty year old Bangladeshi man, smoker, hasn't really thought about physical activity, but is more likely to die of cardiovascular disease than … the national average for instance (PII KII 11 KL; Public Health, PCT)

I'm not saying that every minister or every strategists needs to have an understanding of every single community, but I think it needs to be local rather than the government level because I think it's top down, it goes from Department of Health and government down and it filters through the PCT's and then it's kind of like put through in it's ,and it's much better than a couple of years ago, they are trying to get more understanding of what local peoples needs are and that's why were having the conversation, but um, it's still not good enough, 'cause we're in two thousand and seven. (PII KII 12 SP; Community Project manager, Food & health)

As with the Quality Outcomes Framework for General Practitioners for meeting targets, there is a need to ensure policy makers are not simply including people from the community in order to meet obligations rather than actually valuing their input, as where there is representation, it is often at a stage when the decision has been made therefore is 'lip-service' to the concept rather than active engagement with the community. There is also need to ensure that when policy makers engage with the community it is done in a manner that is appropriate and does not result in unfair power relationships. On all of these aspects there is seen to be improvements being made and a genuine willingness to change practice.

I think we've learnt the hard way that if you don't it doesn't work [not including the community], and I think, you know, it's kind of variably done and variably well done, and I still go to things where there's no patient or community or rep or, almost worse I think, one patient, who is expected to sit there with twenty experts. I think people have got much smarter about how you factor in, you know, the patient experience, whether you do it with a group of patients and then having a way of taking that to into the expert group, especially with perhaps a group of them, or some sort of facilitated process, umm, and similarly I think with community groups, we've

tended to sort of, we'll work out what the answer is and then we'll come and have a discussion with you at the last minute, but it's really late too change anything, and then I think we went through a bit of a phase of OK well we'll come out and ask you what you want but we'll only do what we think is the right answer, and now I think we're trying to get much better. (PII KII 13 VS; Public Health, Regional)

I think if we want it to impact, we need them, the public, to have some kind of ownership of it otherwise I don't see how it can, if we're just enforcing things I don't see how it'll work because I think they're interested and keen as well and can guide us on how, the best way to target different areas and to tackle things, definitely I think they need to be involved. (PII KII 16 CR; Community Dietetic Manager)

7.6.8 Optimal default

Creating an optimal default, whereby the best choice is also the easiest choice, was proposed by a couple of the key informants working at the national policy level, in relation to the reformulation of processed foods and creating of healthy environments to encourage increase physical activity.

So, that's what I call stealthy eating, making changes to the product without people knowing, they're going to buy them anyway, be healthier for them. There are problems with doing that but there is a lot that can be done. It's not just about what people know but also about what can be done for people without them realising. (PII KII 08 PR; FSA, Nutrition Division)

Tim came out with a wonderful phrase at a meeting about, you know, as long as we talk about bike lanes it's hopeless, if we talk about bike roads, then we might actually start to make some progress. (PII KII 13 VS; Public Health, Regional)

7.6.9 Power

Both corporate power and consumer power were identified by the key informants as having the ability to significantly influence food choices.

In relation to corporate power, concern was expressed in relation to the considerable influence the food industry is seen to have on the government's policy decisions as well as supposedly independent bodies such as OfCom. This was expressed particularly in relation to the voluntary codes of practice where the food industry was seen to have the 'upper hand', dictating to government what they will and won't adhere to.

I think it would have to be really punitive. And I think they've got more power, and they've got more power than the government to, to say 'na, we won't do it'. (PII KII 01 DT; Public Health Dietitian, National)

[Y]ou feel well the government, I don't know, who is influencing who and maybe they would have been a bit tougher if food manufacturers weren't influencing government so much. (PII KII 02 NM; National Diabetes Policy)

The other major area of influence from the food industry was seen to be there considerable influence on purchasing practices via a multitude of schemes ranging from product placement and incentive schemes such as loyalty cards, to the ability to buy large swaths of land and consuming small business in their wake.

Yeah, definitely influence purchasing power, _ purchase, the layout of the store, definitely, they way, gosh it's a science behind how they lay out the store, they're not stupid, you know you have to go through the whole store so of course you're going to be tempted … there's still, you know, … with the sweets and everything on the till, um the offers, you know, it's generally on unhealthy food, um, you know, the monopoly that Tesco's have in the nation, buying up the land, you know, local independent stores, … causing the closure of the fishmongers and the fruit and veg shops, um, and I suppose the loyalty they buy through their club cards, Tesco's club cards or Sainsbury's Nectar cards, it causes, you know, people to be loyal to that, to that shop, so again they're just going to spend their money in that supermarket, um. And the advertising, the magazines that they produce, advertise their products and recipes, celebrity endorsement, Jamie Oliver and Sainsbury's, where do you end? (PII KII 02 NM; National Diabetes Policy)

The complexity of the issue with respect to where the power struggle actually lies was also noted in respect to what battles the government needs to focus on, as well as the fiscal imbalance between the food industry and government.

I think they do _ have this difficult thing, the same as alcohol, about the extent to which they work with the industry, and the extent to which they challenge that, and um, it's quite difficult, I worked in the Department of Health for a few years and you could see these battles being played out first hand, and once your not there, I think it's harder, you know unless your sort like Tim, and make your life's work sort of reading and understanding this stuff, it's quite hard to work out where the power struggles are at the moment. (PII KII 13 VS; Public Health, Regional)

I mean the advertisers have such a huge budget that you wonder where, where it does stop in terms of, obviously if they can … spend two million on advertising a product, then two point two million may be worth it still, I don't know where the economics argument is there. (PII KII 14 AN; Food Policy Dietitian, National, Non-statutory)

Despite the considerable influence of the food industry, some of the key informants, particularly those working at the community level, noted that some members of the population were fighting back, particularly in relation to limiting the number of fast-food outlets in their community, but with variable success.

[W]ell there are some little section around the country who have tried to keep, well particularly McDonalds and fast-food chains away and I'm not sure that they've been all that successful from what I read. (PII KII 09 ER; Weight Management Dietitian)

Look at the pressure McDonalds were under … as soon as they had some pressure and globally people started saying look at their stuff, they started doing salads, they started having other things, started having alternatives (PII KII 12 SP; Community Project manager, Food & health)

7.7 Multi-agency working

Research questions being addressed in this section:

- Are there gaps between key government reports, polices and practice? If so, what are these?
- What are the consequences of government policies and programmes to date?
- Do contemporary theoretical public health frameworks reflect current practice?

There were a number of discussions around the theme of multi-agency working at all levels versus individuals, groups and organisations working in silo's in order to enable joined up policy decisions; interagency collaborations and interdisciplinary and multi-agency working.
At the policy level, there is a recognition that different agencies are beginning to work together to influence the public health agenda but there is also concern that some opportunities have been squandered to an extent, such as with the Government Choosing Health White paper, where there is seen to be a lack of systematic coordination between the stakeholders and thus significantly reduced effectiveness. There was also concern expressed that the relevant experts aren't involved in policy development leading to poorly directed and defined policy. Where experts have joined together to deliver key messages, such as with the large voluntary groups, their programmes have been seen to have a large impact on their ability to raise the profile issues such as the prevention of the nutrition-related noncommunicable diseases. Furthermore, the voluntary sector was thought to be perceived as more 'trustworthy' by the general population and therefore a good vehicle delivering health messages as apposed to the government, in fact being a good tactical move on the part of the government to engage with these groups.

Yes, silos, and we were told we weren't going to do silos anymore, but we seem to be doing even more silos. So, it's er, it's, there doesn't seem to be any clear direction from the centre around it, there are lot's of little issues, and I think that's because they don't have people at the centre who actually know anything about it. (PII KII 01 DT; Public Health Dietitian, National)

I think the voluntary groups, such as Diabetes UK and British Heart Foundation and Cancer Research UK have really raised their profile over the last few years … we have worked together on the same key messages (PII KII 1 DT; Public Health Dietitian, National)

I hope that the Food Standards Agency doesn't work in a silo. We tend to work across both governments, industry and NGO's and try to get the best from all of them (PII KII 08; FSA, Nutrition Division)

Choosing Health I thought was, everyone was I think really disappointed with it because, um, you know, we had the Wanless report, and the Wanless report was yeah, this is a really good analysis of the situation, but what Choosing Health didn't do, was it didn't say, OK, so lets think about this systematically, in order to make these changes what has to happen in a place like Tower Hamlets for instance (PII KII 11 KL; Public Health, Tower Hamlets PCT)

[C]ertainly DH has been really quite clever hasn't it, about pushing its advertising budgets through people like British heart Foundation who the public see as, especially, I don't know [mumbled], they trust it, rather than if it said government information service logo, of god I don't believe a word of it. (PII KII 13 VS; Public Health, Regional)

The benefit of multi-agency working for the community and third sector in particular was also recognised as a requirement, and for those who were already doing so, had found to be very positive for all members. It was noted by those working within the community, that social enterprises, such as food cooperatives, were a good venue for engaging with the community in an informal and relaxed setting. The potential challenges were acknowledged however, especially in engaging with the third, voluntary, sector in that there is a large amount of untapped work happening which is difficult to coordinate with, but the effort was seen to outweigh the difficulties.

I think we need to work together, but not only within the community but in schools, in hospitals, in primary care centres, in public places (PII KII 05 TA; General Practitioner)

[A]t an organisational level, the challenge is around working with other organisations. We have a local area agreement, so we have joint targets with the local authority, … and we have what we call CPAG's[67] *which is like …the sort of top level groups for the different work streams of the local area agreement, so there's like a health and wellbeing CPAG. They have representation for sort of key people, you know, local authority, voluntary sector, um, and PCT, ah, but the challenge is actually to make those groups effective, and work, sort of action groups. So, we're some of the way towards better partnership working with the local authority, because it's absolutely crucial, but there's still a long way to go because you sometimes find things going on in the local authority that you didn't know about, and often, for instance the NRF, sometimes you get a proposal being worked up in one part of the local authority and then something similar being developed somewhere else when they are actually very similar. …The other challenge is, we've got really good, sort of really rich um third sector, voluntary sector, which is brilliant, which is why we can work and run this health trainers as I was saying, but um, there's so much going on that again, we're not aware of everything, and we're not necessarily, um, as good as we*

[67] CPAG = community programme action group.

might be in actually supporting them when they want to …do more around health lifestyles. They sometimes need a bit of support and we're, you know, I think we can do better on that. (PII KII 11 KL; Public Health, Tower Hamlets PCT)

[S]he loved it because it was the only way she had access to local people, and I loved it 'cause that was the only way I had access to a professional. (PII KII 12 SP; Community Project manager, Food & health)

I think that's just an untapped market, well it's getting better but I think that's such a big opportunity and to start working with employers, we've got a dietitian that works here in Tower Hamlets who works with the Tower Hamlets employers, employees, which I thinks brilliant, um, there's so many big companies that you could actually target, if you target the employees you could target their families and it just goes out that way and green spaces we've got, some schools are working really well with allotments and they're giving allotments to parents so parents can go and have green spaces and grow their own fruit and vegetables, that kind of thing, I think there's just so many different exciting things that you could do from that side, that's why we need to link in more with the councils (PII KII 15 WP; Community Dietetic Manager)

So there's workshops and PCT, GP practices come in, we also work quite closely with GP's who refer people to the food coop as the first step because I think when people first go in and are diagnosed with diabetes, um, heart disease, like the first thing that they need to do is manage their diet, um, so what GP's usually say is try the local food coop (PII KII 16 SR; Community Healthy Eating Team Lead)

7.8 Summary

The previous chapter examined the factors influencing food choices and the nutrition transition from the point of view of the first and second generation Bangladeshi community living in Tower Hamlets. The purpose of this chapter was to broadly explore the same issues but from the perspective of the key informants; third sector and voluntary workers, health care professionals, public health and policy makers. The key informants included those of both Bangladeshi and non-Bangladeshi origin, with their varying responsibilities reflecting the multilayered governance of public health. No key informants were chosen based on their ethnic origin specifically. Throughout this chapter, the findings from the interviews with the key informants of Bangladeshi origin working within their community and/or those who worked closely in the area of nutrition, were able to expand on, and add further depth and context to the questions related to the Bangladeshi communities culture and practices, in relation to food and activity, from the perspective of both insider and working in and with the community.

The knowledge, experience and expertise from key informants whose professional responsibilities were more closely aligned to food policy and/or public health enabled detail to be given to the policy specific questions which were derived from chapter three. They were able to discuss the broader policy context; providing detail with respect to the key policy issues for

this community; highlight the gaps and issues between policy theory and practice and address the realities of the consequences of government policy and programmes to date. The key informants also gave an insight to the ability to influence policy decisions from within their various roles and provide informed opinion related the issue of responsibility for public health; government, personal and corporate. This information provides valuable insight into the implications for future public health and food policy.

The following chapter on the discussion of the findings will outline the policy implications of the findings from the research, including the impact of the generational tensions and the cultural transition in this community. It will illuminate how the policy framework at the time of this research reflects the epistemological dilemma of a sociological issue being addressed with a largely clinical solution.

Section C: Discussion and conclusions

Chapter 8 Discussion of findings

This thesis began with the aim of developing instruments to measure food choices and eating patterns among British Bangladeshis at risk of developing Type 2 diabetes. Following the systemised review of the literature and discussions with academics and key stakeholders in the community however there was a shift from straight forward nutrition analysis to social nutrition. This thesis therefore set out to explore the factors influencing the food and activity choices in two generations of British Bangladeshi's living in East London, in order to determine how this community determines what, when and how they eat, and the implications for food and public health policy for the prevention of obesity and Type 2 diabetes. Rather than focusing on a narrow, individualistic approach to dietary changes, this research drew upon the disciplines of social science and public health nutrition to investigate the wider determinants of nutrition-related ill-health, such as the influences of psychological, socio-cultural, economic and environmental factors on the culture of food and eating, and physical activity, together with the trend in eating and physical activity patterns.

Central to this thesis was the preposition that obesity and Type 2 diabetes are largely preventable but, despite many of the risk factors being amenable to a wide range of public health prevention strategies, too often a reductionist medical approach, with the focus on individual lifestyle change, is taken. The core tension is whether the increased prevalence of obesity and Type 2 diabetes in this community in the East End of London can be explained clinically, socially or both and the impact of this for future policy.

Despite the Bangladeshi community in Tower Hamlets having very high levels of deprivation (National Statistics 2003) this has not been a paper about poverty *per se*, but rather this is another dimension for some, with the participants not being selected specifically for belonging to a particular socio-economic group. It has however incorporated the impact of poverty on lifestyle choices from the perspective of culture, knowledge and skills. Those community participants included in the research therefore reflected the demographic differences within this community, as would be seen in any community, with respect for example to the number of dependencies, the primary language spoken; tenure; employment; family income; benefits and education level. In saying this however, and also as a reflection of the community, those community participants interviewed were more likely to be part-time/self-employed or unemployed, have poor educational attainment and be on some form of benefits. Where relevant these dimensions are reflected upon in the discussion. The key informants reflected the multi-level governance seen within public health, and as with the community participants their positions were reflected upon in the analysis. Where appropriate their ethnic origin was noted, to enable their views to be contextualised, take into account that whilst officially the Bangladeshi population may be considered a homogenous group, practices and interpretation of practices are very different within the community.

The findings of the interviews broadly enclose the trends that have been previously identified in work with migrant populations as well as that relating to the wider determinants of health. They build on earlier work describing several constructs in relation to food classification for first generation Bangladeshis with Type 2 diabetes (Greenhalgh PM, Helman A, & Chowdhury A M 1998), as well as the migration studies looking at food security and changing foodways (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000;Dench G, Gavron K, & Young M 2006;Kocturk-Runefors T 1991;Mannan N & Boucher BJ 2002;Mellin-Olsen T & Wandel M 2005;Opare-Obisaw C, Fianu DAG, & Awadzi K 2000). More recent work, investigating community, religious and professional perspectives in diabetes prevention in a British Bangladeshi population (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000;Grace C, Begum R, Subhani S, Kopelman P, & Greenhalgh T 2008;Mannan N & Boucher BJ 2002), published following completion of this research, also reflects some of the findings in this study. The complexity of factors found to influence dietary and physical activity choices amongst two generations of British Bangladeshis were found to parallel those identified in the Foresight Tackling Obesities: Future Choices project (Foresight 2007) published following the completion of the field work for this thesis. Differences seen in this population however tended to be as a consequence of its uniqueness; the high degree of segregation from the wider UK community, and the strong cultural and political influences, with new generations finding their place in society and asserting their own identity.

This discussion will be set out considering the principal aims and research questions as detailed in section 5.6; table 5.3 summarised the research and interview questions arising from the literature. The first section will draw together the findings of the research to elucidate the similarities and differences between women and men from the first and second generations, from both the community and key informants' perspectives. The influence of internal and external factors on food and physical activity choices, the change and continuity being seen within the Bangladeshi culture and the current trends in eating patterns will be outlined, reinforcing the validity of the research by cross referencing with the literature to highlight similarities as well as drawing attention to what the findings have added . The conclusion will focus policy framework at the time of the field work, the current and projected future situation and implications of the research findings for the theory of public healthy and food policy.

8.0 Internal factors contributing to shaping the food and activity choices

In answer to the questions relating to the factors contributing to shaping the food and activity choices of the community, as anticipated a wide range of factors, both internal and external, were found. The extent and variation of these influences differs between genders, generations and degree of acculturation. By far the most powerful psycho-social influences were those of taste; quality; convenience; perceived ability to make changes; advertising; and family, in particular pressure from children. Socio-cultural and structural influences included changes to the patriarchal structure as a consequence of changing work patterns and acculturation,

perceived lack of time, changes in shopping and cooking practices and increased access to both traditional and western food.

With respect to taste, there were differences in perception between the two generations, being strongly influenced by individual culinary experiences over their lifetime. The high consumption of meat however was seen to be universal amongst both generations, starting with immigration to the UK for the first generation and a switch from a carbohydrate to a protein dominant diet; meat taken every day being a sign of relative affluence. This trend continues with their children with meat being a core and often dominant component of the diet.The differences between generations however were also notable. The first generation were less likely to experiment and had an ongoing preference for home cooked traditional meals and the food available in Bangladesh. The continued travel back to rural Bangaldesh for many served to reinforce these food taste preferences, with the food in their homeland being considered both of superior taste and quality due to being either fresh from the garden or freshly killed. This view was not held by the second generation participants who travelled back to Bangladesh who conversely disliked the food finding the taste too strong in comparision to what they were accustomed to in the UK. Furthermore, the second generation, whilst continuing want to include traditional foods also had a strong desire for increased variety in their diet. They were therefore not as concerned about having traditional meals on a regular basis, finding the constant 'rice and curry' to be monotonous. The young women were even less concerned with having traditional foods daily, much to do with their new more hectic lifestyles and consequent time pressures being incompatable with the amount of preparation required. For the men this changing food pattern was reflected in them being more likely to have foods prepared outside the home and 'taste' was the dominant reason for choosing the spicy fried chicken and chips that were taken on a regular basis. A logical question was proffered, "why would you choose a sandwich when fast-foods are so tasty and so cheap?" For women it was the greater emphasis on the type of meals being prepared that was changing. When assumptions are made by policy makers that food culture can be changed with education and knowledge as has been seen within the policy framework at the time of these interviews and the emphasis on personal responsibility, this assumes a change in attitude and behaviour will be as a consequence of logical advice rather than the myriad of influences that actually affect how food is chosen as a part of everyday lives and experiences. For both generations the deep-rooted influences of taste preferences have been developed over a lifetime and knowledge alone is unlikely to impact. Further details of the changing trends will be discussed shortly.

The preference for traditional foods was reflected in the shopping patterns of the first generation where Bangladeshi cash and carry stores, markets and butchers where preferred. This was reinforced with the significant increase in traditional foods available over more recent years such as the Bangladeshi fresh water fish. The increased availability of frozen Bangladeshi river fish in particular has seen a change back to traditional diets more reflective of those taken in Bangladesh as compared to the increased intake of meat following migration to the UK. In the majority of cases, mainstream supermarkets tended to be used predominantly for western foods and cupboard items however there are indications that this is gradually changing with the

second and subsequent generations. This begins to outline the interconnectedness of culture with the food system but also the need to recognise that changes that may occur in the mainstream UK food system may not impact significantly on communities such as found in Tower Hamlets. Within the wider food policy framework there is the need to ensure that local strategies exist to address unique local circumstances.

Family and children were found to have a strong influence on the changing food patterns with respect to both food purchasing and cooking practices. The first generation women in particular noted that they would often purchase and cook western style foods to cater for the preferences of their children, whilst at the same time maintaining a traditional diet for other members of the household. Allowing their children to have fast-food was also seen as accommodating their preferences rather than lack of any parental control. The key informants however felt that lack of parental control was a concern for some families who they felt did not have the skills or coping mechanisms in place to manage their demands and as a consequence were more likely to relent and give in to their desires. This has implications for working with the family unit rather than individuals for those accessing professional services such as weight management services, as well as for supporting parenting skills to enable positive influences to begin in the the early years, the importance of which has been emphasised in the recent Marmot Review (Marmot M, Allen J, Goldblatt P, Boyce T, McNeish D, Grady M, & Geddes I 2010).

In addition to the strong influence of taste preferences, quality was one of the factors most consistently noted as driving the food choices being made for both generations of participants. Freshness of the food available was particularly associated with quality, but also to a lesser degree appearance and hygiene. As with taste, perception of quality impacted on where foods were purchased such as markets versus supermarkets as well as whether or not the participants were willing to have left-over food or store food in the freezer. These later issues related specifically to the first generation who preferred to purchase perishable food items on a regular basis rather than in bulk. Many of the participants noted that the produce in the market was of poor quality in comparision to the supermarkets which was perceived to stock fresher produce due to having a greater turnover. The difference in purchasing practices between markets and supermarkets however may be the reason for this perception. Produce at the markets tended to be bought in bulk by the participants, is often already ripe, and consequently perishes before being eaten. Produce bought from supermarkets tended to be in smaller quantities, to an extent due to the increased cost making this option less affordable for many. A lack of practicial knowledge amongst some members of the community with respect to purchasing produce was an issue reinforced by the key informants who organised food cooperatives. They noted that part of their role was education, for example about buying seasonal food and how to purchase produce that ripens at different times, so that the quality remains optimal and wastage reduced. Quality was also the driver to buying more expensive organic foods. In this case, even if not affordable for the whole family, organic produce was chosen by some in order to provide what they considered was the the best quality for their children. In general, the majority of participants stated that quality was more important than cost and once again references were made back to the homeland by the first generation men who

noted that all food was organic and straight from the ground and therefore preferable. The dislike of intensive farming practices was also made in relation to meat, and in particular poultry, which was noted to be too large and generally “disgusting” by some of the first generation women who were more accustomed to the ‘free range’ chicken they would have eaten in Bangladesh. . This strong desire for quality however was somewhat contradictory to the high intake of foods from fast food outlets, which were acknowledged to serve poor quality fare, reflecting the ambivalence seen amongst second generation participants especially.

There was widespread general knowledge of the importance of dietary variety including a regular intake of fruit and vegetables while limiting foods high in fat, salt and sugar but variable degrees of health consciousness with a gap frequently observed between knowledge and behaviour and reinforcing that education alone does not result in positive behaviour change. The health impact of choices was generally lower on the list of priorities when shopping instead being more influenced by: religion, taste, quality, convenience and affordability, as well as venues such as grocers and markets versus supermarkets. Whilst the focus on eating patterns in all of the interviews tended to be on the negative changes that have occurred within the British Bangladeshi population, in both generations a number of positive changes were also noted. Amongst the first generation participants, especially women, this was seen by a trend for a reversion back to a traditional diet more reflective of that taken in Bangaldesh with increasing consumption of fish, fruit and vegetables and a reduction in meat intake. In some cases, the positive influence from their children who encourage and assist them with making healthy choices was noted. As mentioned previously, it is also likely that the significantly improved availability of imported Bangaldeshi fish and vegetables have had a considerable impact on the positive choices being made. Amongst the second generation, changes were based on using lower fat cooking methods and attempting to reduce less heathy dietary options.

Positive changes being made were, for both generations, ostensibly largely based on western concepts of what constitutes a healthy diet and were in line with a biomedical understanding causality rather than traditionally held beliefs. For the first generation in particular however there does appear to be a blend of systems influencing the food choices made. That is, a blend between the present influence of exposure to the biomedical model and past traditions with roots in the Ayurvedic system. Overall however, views of healthy and unhealthy foods tended to be based on dietary recommendations in relation the macrontrient defined food groups. Amongst the second generation women in particular there was acknowledgement of the need for variety in the diet, and a realisation of the need to increase fruit and vegetables in their diet versus the meat and rice dominant traditional diet seen in the UK amongst large segments of their community. Many participants, across the generations, also recognised high fat and sugar foods, such as fast food and fizzy drinks, as being poorer choices and that modern portion sizes were often excessive. Unlike findings from previous research with first generation Bangladeshis with Type 2 diabetes (Beardsworth A & Keil T 1997;Chowdhury AM, Helman C, & Greenhalgh T 2000), this study did not find prominent in food choices that beliefs were explicitly embedded in the Ayurvedic system (Hill SE 1990;Nagpal N 2003). Amongst the first generation men however, some expressed the view that protein foods are more essential than vegetables, the later being

little more than an accessory food. This may be a reflection of past experiences in rural Bangladesh where food security was a significant issue (FAO 1996) and access to these foods was restricted, but also possibly based on classification systems where vegetables are categorised as non-nutritious despite having other health benefits (Fieldhouse P 1995). Furthermore, the belief that one cannot feel strong without rice (Rizvi N 1986) remains dominant amongst both first generation men and women which is seems to account for rice continuing to be the main staple in this society. Despite these exceptions however there does not appear to be a conscious belief amongst the community of the traditional concepts of food based on the Ayurvedic system but rather a continuance of their food culture and tradition that is now being diluted by western concepts of how food impacts on health. The resonance between Islamic teaching and health will be discussed in a later section. Family history, unexpectedly, did not emerge as a strong motivator for making healthy food and lifestyle choices even though it was recognised that this would be a plausible and logical reaction. The key informants also recognised this increasing 'health consciousness' but noted that for many, despite the improvement in health knowledge, the translation into action tended to occur only once the complications related to obesity developed such as Type 2 diabetes.

Despite the gap between knowledge and behaviour, the perception that public health messages are starting to be heard and disseminated within the community was common amongst the key informants and considered to be resulting in a greater understanding of the links between overweight and obesity, and nutrition related diseases such as diabetes. The community was thought by the key informants to be no more or less informed than the general population. This perception was reinforced by the community participants where being overweight was considered by the majority to be associated with poor health, as has been found with other recent studies within this community (Grace C, Begum R, Subhani S, Kopelman P, & Greenhalgh T 2008;Greenhalgh T, Helman C, & Chowdhury AM 1995). Some of the participants noted that they "don't have that cultural thing of fatness being associated with wealth" which continues to be the issue for some both within their community both in the UK and abroad. A number of the second generation men and women, expressed the desire to be fit and healthy rather than a particular concern about body weight per se' which is likely to be related to the fact that the participants overall saw themselves as being thin or even 'skinny'. Dietary misconceptions were found to reflect those seen in the wider community, for example, the need to avoid high carbohydrate foods such as potato and rice with some confusion regarding quantity. There also appeared to be less of a feeling of theological fatalism towards developing diseases such as Type 2 diabetes as had been seen in the past, a perception reinforced by the key informants who work with the community. It was only among the first generation female participants, who were relatively isolated and did not have any educational qualifications, who continued to hold these views. Differences were seen in perceptions relating to the prevention of Type 2 diabetes, and despite the community participants generally feeling they could influence their own health, a minority considered the development of diabetes was still inevitable. The Bangladeshi key informants in this study, who had first generation parents, explained this as being a consequence of the different historial experience in rural Bangladesh for first generation versus the influences of living in Tower Hamlets for the second. For the first

generation, the link between diet and disease was for some obscured by the fact that historically people didn't develop diabetes in their families. A trend now changing with increased wealth, reduced physical activity, increased age, increased body mass index and waist-hip ratio being experienced as part of the epidemiological transition in developing countries as described in section 3.2. The Bangladeshi key informants thought that the second generation however had a greater feeling of expectation to developing diabetes as they aged due to the large number of people within their community, and often their own family, having the disease. As noted, the incidence and prevalence of Type 2 diabetes in Tower Hamlets is higher than the rest of the country (National Statistics 2001). The concern expressed by some key informants that many Bangladeshis lacked ownership for their health, prefering to be told what action to take, may be a consequence of the sense of powerlessness amongst some with respect to the ability to affect their health outcomes in relation to diabetes. This may also be reflected in the high use of health care services (Department of Health 2001a;National Statistics 2001) and be part of the power and control of the medical model, which develops expectations that its role is to 'make me better' and there being a cure for every ill. Conversely though, it was revealed that there is a growing number within the community that desire greater empowerment, becoming actively involved in peer-led programmes. This distinction is important to recognise to ensure specific interventions are tailored to reflect the different perceptions within the target audience rather than use a 'one size fits all' approach, assuming that the Bangladeshi community is a homogenous group.

But while there was an increasing understanding of the links between diet and the prevention of disease, and the desire amongst some at least to take action, there was concern expressed by some key informants, representing different roles within public health that general practitioners in particular continue to focus primarily on the treatment of secondary complications. It was felt that prevention and treatment of obesity was not considered by general practitioners to be part of their role, but rather seen as a lifestyle choice rather than a disease. That the indicators related to overweight and obesity in the quality and outcomes framework (QOF) of the General Medical Services (GMS) contract relate only to holding a register of patients with a BMI equal to or greater than thirty reinforces the lack of importance placed on supporting patients to prevent overweight and obesity. Furthermore, since the completion of this research, a Healthy Weight survey conducted by the Regional Public Health Group – London (Vaughan L 2009) found that despite the publication of the Foresight report and the implementation of the Healthy Weight, Healthy Lives obesity strategy for England (Department of Health 2008c), still only a minority of PCTs had obesity care pathways in place, and where programmes were in place the focus tended to be limited to intervention services. In relation to strategic commissioning for obesity and the monitoring and evaluation of services, generally significant improvements still needed to be made. The obesity strategies in place tended to be owned and driven by too few people and there needed to be stronger programme management arrangements to support the implementation.

As with the community participants, the key informants were also asked their opinions regarding the risk factors for ill-health especially in relation to obesity and Type 2 diabetes. Two broad

themes emerged, the first relating to biology with discussions around genetic predisposition; and energy balance in a changing world and the emergence of new lifestyles. The second theme related to social determinants such as beliefs around ill-health as a consequence of poverty and deprivation; poor education and unemployment. Those with a medical background, a GP and Dietitians, particularly understood the concerns surrounding societies undergoing a transition from sparse to significantly better and even excessive nutrition and the potential for continuing impact across generations as proposed in the now widely accepted Barker hypothesis (Barker DJP et al. 2002). A hypothesis that is arguably the most in-tune to social policy thinking, acknowledging that humans are endowed with an ancient physiology moulded by famine and ill equipped to handle our modern, obesogenic, food environment, especially when physical activity is limited. The wider determinants of health were particularly acknowledged by the key informants who worked within public health although a couple of the Bangladeshi community workers also acknowledged the links between the numerous factors associated with social deprivation and poor health. In particular factors such as overcrowded living conditions; high levels of crime; high unemployment; poor academic achievement and affordability were highlighted by those with a specific public health role. Furthermore, in contradiction to views held by some of the key informants as outlined previously with respect to General Practitioners, one of the Bangaldeshi GPs working in Tower Hamlets expressed his understanding of the issues being bigger than the individual, noting that the Bangladeshi community were experiencing the most deprived conditions within the lower socio-economic group and are the the “excluded of the excluded”.

Islam forms the basis of the Bangladeshi social structure and therefore not surprisingly religion was found to be a powerful influence for both generations. Diet and lifestyle were very much informed by faith and as such religion is a valuable avenue for influencing behaviour. Predictably, all of the Bangladeshi participants emphasised the importance of halal food which impacted not only on the type of food eaten but also the where it was purchased. Meat for example is predominantly purchased at the Bangladeshi butchers where it is trusted to be halal despite supermarkets starting to stock halal items. There is also the continued proliferation of halal fast food outlets as noted in a previous study (Mannan N & Boucher BJ 2002). Additionally, for some of the second generation men and Imams, emphasis was given to the health messages within Islamic teachings such as the foods either mentioned or recommended by the Holy Prophet, and choosing a healthy lifestyle by maintenance of physical and spiritual health via healthy food choices defined as avoidance of gluttony, regular intake of fruit and vegetables and lean meat, especially fish, the avoidance of poor quality foods such as the high fat take-aways which are ubiquitous in the community, and regular physical activity. This interconnectedness of Islamic teachings and healthy lifestyle messages was also found by Clare Grace and colleagues (Grace C, Begum R, Subhani S, Kopelman P, & Greenhalgh T 2008). This however presents an obvious dichotomy between beliefs and practice, a point not missed by one of the Imams who emphasised the difference between religious belief, tradition and food culture. The Imam reflected on issue pointing out that poor dietary habits and lack of physical activity was an issue for “our” Asian-Muslim community in particular, with non-Asian Muslims seeming to consume healthier foods and be more active. And despite the apparent rise

in religious piety amongst the second and younger generations, the numbers of fast food outlets continue to grow, with taste and cost being the overriding factors in the choice made as long as it is halal.

Another trend that was more apparent amongst the men, and particularly the second generation men, was that of using alternative or complimentary medicine. The beliefs around alternative medicines were rooted within Islam such as the use of black seed oil, honey, karela and zam zam water although there was little knowledge of what the actual benefits were deemed to be. The second generation women also believed in the general benefits but didn't tend to actually use these remedies. The incorporation of bitter foods, such as the karela, may have roots in the medical system of Ayurveda as discussed in section 2.3 although this was not explicit in the findings. A Bangladeshi key informant observed that the use of black seed oil and zam zam water in particular encompass traditions from Islamic nations outside of Bangladesh, particularly Saudia Arabia, and therefore in themselves reflect changing traditions and are thus a more modern phenomenom amongst this community. This trend for use of alternative medicines contradicts the findings from the Health Survey for England (Bajekal M, Becher H, Boreham R, Brookes M, Calderwood L, Erens B, Falaschetti E, Hirani V, Karlsen S, Kelly Y, Korovessis C, Laiho J, McManus S, McMunn A, Nazroo J, Primatesta P, Prior G, Purdon S, Tait C, & Teers R 2001) which found there was little use however this may be an emerging trend. Of concern was that some of the second generation men discussed encouraging their family members to cease diabetes medication in preference for these alternative remedies, particularly the black seed oil, without advising the health care professionals. This issue was reinforced by one of the key informants who worked with this community as an advocate who noted the difficulty of revealing this issue and the subsequent negative consequences, for example with diabetes management. This issue reflects the multiple lifeworlds experienced by some of the community participants, for while health professionals were seen as key for providing information, actual management of disease was also influenced by perceptions of Islam and emerging beliefs.

Ethical considerations with respect to the environment, fair trade or animal welfare did not feature as factors influencing the food choices within this community. No environmental consideration was indicated when choosing organic foods but rather, as already noted, based on the perception of increased nutritional quality. Scientific evidence for the enhanced nutritional value of organic foods is however limited and continues to be debated. There was also a lack of concern for animal welfare or fair trade issues, religious considerations dominating. This is in contrast to the high importance being placed on food sourcing and sustainability in the general population as evidenced for example by the changing practices amongst food retailers with respect to purchasing and selling significantly more higher animal welfare products and the rise in fair trade and locally sourced products. There were two exceptions to this. The first was a young second generation man who following attending lectures at university was made aware of fair trade products and felt this was something that he would begin to consider although no action had been taken to that point. Secondly, a first generation man recognised the issues however with respect to animal welfare felt a lack of power to make changes. Whilst ethical considerations were lacking relating to the food sources, concern was however expressed with

respect to the maintenance of local shops. This was both in relation to reducing the number of take-aways outlets and increasing access and availability of traditional foods, both of which should not be at the expense of local Bangladeshi businesses. It was felt that supermarkets in particular should supply pantry items but not encroach on the market of speciality stores supplying traditional foods although ambivalence was reflected in the increasing use of supermarkets, especially for fruit and vegetables for those who felt the quality was superior to the local markets. For the take-away outlets also, despite the unanimous belief amongst the community participants and key informants that they were having a negative impact on both the Bangladeshi food culture and the health of the community, for a variety of reasons this did not always translate into wanting to reduce the number of outlets. This contradication will be expanded on further throughout this discussion.

Social class and education was only mentioned by a few, predominatly key informants, as having an influence on health knowledge and the choices being made although they made the case passionately. They felt strongly that people, who in particular are more educated, are more likely to make healthier food choices, showing greater concern for their own health. Conversely, those who were uneducated, whether they be the first generation women or the unemployed youth, where seen as having poor health knowledge, often making poor choices, in part due to apathy. These perceptions of the willingness, or not, to make positive dietary changes based on health knowledge are reflected in a personalised public health approach that focuses on individuals and a biomedical model of diet that requires voluntarily compliance with dietary advice (Germov J & Williams L 2004), denying the issues are socially based rather than simply a lifestyle choice. It is this view that also enables the media to castigate people for their actions as described in chapter three (Alexandratos N 2006;Food Ethics Council 2006;Schmidthuber J 2005), a debate being reignited by the Coalition Governments Public Health White paper, the implications of which will be addressed in the next chapter.

When addressing the issue of how health knowledge was acquired, a wide range of avenues were identified as sources of dietary and general health information with the mosque and local community centres being the cornerstone for the first generation, being culturally and theologically appropriate as well as being important centres for socialising. Imam's however whilst highly respected, were not necessarily expected to be the most appropriate source of dietary health information but rather an avenue for dissemination of key health messages. Family and friends were also seen as important sources of information, healthy lifestyle habits often being learnt via role modelling. But, the role of the health professional, as an expert, was identified. General Practitioners were frequently cited, although there was also a significant amount of scepticism about their knowledge and understanding of health in a holistic manner, thought by some to lack adequate nutritional knowledge, time and the appropriate counselling skills, being seen as only suitable to dispense medication. This perception has been noted previously where western medical practitioners are not seen as understanding health and dietary needs, only technical cures and medicines (Nichter M 1989). This conflicts with the direction of the current Coalition Government whereby General Practitioners are seen as the most able to understand and repond to communities needs and hence are to take the lead role

in commissioning of services for the community. Key informants believed that General Practitioners have de-catagorised obesity as a disease, instead being considered a 'personal lifestyle choice', continuing only to treat secondary conditions. It is of concern that many GPs and other health professionals also are likely to place the emphasis on the increased genetic risk for central obesity and Type 2 diabetes amongst the Asian community, which despite being a significant risk factor remains secondary to the impact of the massive social changes seen within this community since migration to the UK which have impacted of diet and physical activity. A pattern mirrored in other cultures in transition as outlined in chapter three. As a consequence, in the developing health model, medical treatment versus prevention is likely to continue to dominate.

Dietitians and nutritionists on the otherhand were seen, by members of the community who had personal experience of dietetic consultations, as valuable and reliable sources of diet related health information, being considered the experts in the subject. But the lack of human resource to deliver health programmes within the community was seen as a significant challenge, especially in relation to dietetic expertise by key informants such as those working in national public health nutrition, national policy. The potential for the provision of misinformation in these circumstances was a concern amongst the key informants where there has been a lack of adequate training and quality control of lay educators, including those working in the third sector and non-professional health workers. The importance of involving the community was highlighted, but at the same time ensuring competency based training and ongoing monitoring and assessment to ensure accuracy and consistency in the messages provided. The difficulties of dealing with the cultural barriers within the community were also discussed by the Dietitians interviewed, noting that quite often information is more readily received when delivered by a member of the Bangladeshi community who is seen to have a greater appreciation of their particular cultural issues. The apprehension of some health professionals to be forthright in the delivery of information, out of concern at causing offence, was also recognised as impinging on the education provided by a dietitian working in weight management, suggesting that health professionals need to take their lead from health professionals and non-professionals with the same ethnic background as the community. Where cross-sector working had been established to develop and deliver key messages, their programmes were seen to have a more substantial impact on their ability to raise the profile of issues such as the prevention of the obesity. Furthermore, both key informants and community participants thought that the voluntary sector was perceived as more 'trustworthy' by the general population than the Government and therefore a good vehicle delivering health messages. The continuing push towards cost savings, reducing the numbers of 'expensive' professionals was seen as a further driver for the increased involvement of the voluntary sector. But while the growing importance of working with non-healthcare professionals for a variety of reasons increases, so does the risk of reducing the quality of services and misinformation if the necessary governance is not in place. Consequently there is the potential for a two tier system of health care if access to highly skilled healthcare professionsals is limited. This is likely to result in the continuation of the frequently reported inequalities seen in health care and health outcomes for ethnic minority communities. So while there needs to be community engagement and multi-professional cross-sector working, the

expertise of healthcare professionals and the ability to both understand disease mechanisms and to translate scientific knowledge into practice remains essential. It will be the responsibility of Dietitians and other healthcare professionals to ensure there is adequate training in place to ensure both their own cultural competence and the appropriate knowledge and skills for non-health professionals are developed and maintained. It also shows a need to increase the professional healthcare workforce from within the community. Further consideration also needs to be given to whether the dividing factor is related to education/class or ethnicity.

Reflecting the perpetual change seen in the East end of London, one of the key informants working in health made note of an emerging movement of migrants from Dhaka who were also less likely to use the social networks within the community, due to not having the same extended families in Tower Hamlets, and were therefore more willing to seek and accept advice from healthcare professionals. Again this reflects the need to ensure services aren't developed based on the perceived, homogenous preferences, of what has been found to be a culturally diverse community despite their high degree of segmentation from the wider UK community.

When discussing the format in which the information was received, in addition to the direct personal contact identified, the media was the largest single source of information, whether mainstream or Bangaldeshi specific, in print, audio or visual. There were opposing views regarding the use of print media such as leaflets with a preference for more dynamic methods of disseminating the information; a view held by both community participants and the key informants who worked within Tower Hamlets. The responses also emphasised the importance of involving the community and developing targeted locality based programmes, to ensure the most effective interventions are in place. Timeliness and being specific was also raised to enable people to implement change versus campaigns that are likely to simply frighten people resulting in the issues being ignored. This fits with the ethos of social marketing which has been in vogue in recent years and does have potential to enable more focused, culturally appropriate targeting of health messages to specified audiences. Care needs to be taken however that the potential impact is not over-stated, leading to a focus on individual behaviour change at the expense of tackling the wider determinants of health, as may be said to have occurred with the current Department of Health funded Change4Life anti-obesity social marketing campaign. Furthermore, the recent change to the Conservative-Democrate Government has seen a backlash for such campaigns, seen, not unexpectantly by the Conservatives, as an example of the Nanny State. Perversley however the responsibility is now being pushed towards the food retail industry to lead on this work, using a now known and trusted brand, which is seen by many involved in public health as a clear conflict of interest which will only serve to exacerbate the obesity epidemic further. This is reminiscent of a comment made at the UKPHA conference in 2004, "*when the Government seeks to influence people's behaviour, it is called nannying, but when big business does it, it is dressed up as offering choice"*.

Looking towards barriers to gaining health knowledge, a significant issue raised particularly by the first generation men was the marginalisation and consequent isolation of the first generation women together with their poor language and literacy skills. To a large degree this was as a

consequence of their cultural background; all of the first generation female participants interviewed having no educational qualifications, were unemployed and spoke only Sylheti[68] despite living in the UK for many years. This affected confidence to leave the home setting for some, together with the ability to access a variety of information whether it is written, on the radio or on television, including the community stations and channels, as this was only available in English and / or Bengali. The women also noted their time constraints which impacted on their ability for example to undertake English for Speakers of Other Languages (ESOL) courses. As a consequence the first generation women were very reliant on their husbands and other family members for their health information which despite best intentions may not necessarily be adequate or accurate as already discussed. In particular, some of the second generation male participants noted accompanying their mothers for medical consultations but noted that this was often culturally inappropriate plus that they lacked the skills to be able to adequately interpret and translate the often complex information. The issue of family members or friends acting as translators is common despite not being considered best practice and links back to issues related to lay educators and need for adequate governance. Limited language and literacy skills also affected other members of the community but none to the degree of the first generation women. For the second generation women, changing traditional roles and lifestyles has meant that they are not experiencing the isolation of their mothers. This issue of ongoing lack of literacy in English, and Bengali for the first generation women, and the reasons leading to this situation has been noted previously as outlined in chapter 2 (Ali J 2000;National Statistics 2001;Phillipson C, Ahmed N, & Latimer J 2003). There is a debate to be had, although somewhat controversial, regarding the degree to which there should be the continued provision of translation and advocacy services versus instead the provision of the necessary support to attend language courses and enabling communities to access mainstream services. The major concern of course is that resources will be removed but inadequate attention will be given to addressing the barriers to 'why' many people are unable to take advantage of the available courses. Pragmatically it would seem however to be preferable to increase English literacy within the community enabling both greater access to mainstream resources and services, and also reducing the level of segregation from the wider community, being at the same time conscious of the continued need to provide services that are culturally sensitive. With the ever increasing diversity seen in the UK it is also becoming increasingly difficult to provide adequate resources in the vast range of languages necessary leading to a dilution of adequate resources.

8.1 External factors contributing to shaping the food and activity choices

The discussion will now turn towards the external influences found to be contributing to the food choices being made where the globalisation of the food supply and urbanisation, together with changing work patterns and female employment were the predominant factors raised.

Globalisation of the food supply has resulted in a considerable increase in the availability of traditional Bangladeshi produce since the main wave of migration which reached its highest

[68] Sylheti dialect is a spoken only language of Sylhet in the North Easter Region of Bangladesh and is significantly different to Bengali the national and official language of Bangladesh.

point in the 1970's. Together with other factors already noted, this appears to have has impacted on the dietary intake in the first generation, seeing the beginning of a move back towards traditional diets and away from the urbanized meat dominant distortion seen in the UK. Another observation by one of the first generation woman was the narrowing of the differences between the UK and Bangladesh with large supermarkets now opening up resulting in similar foods being available in both countries although it was not clear whether the area being referred to other than 'in my town'. Whilst the increase in availability of traditional foods was seen as a positive within the community, the overwhelming issue recognised by all participants was the high exposure to the over abundance take-away food outlets in Tower Hamlets providing cheap, convenient, easily accessible food. The proliferation of the outlets was unanimously believed to have an extremely negative impact on the food culture and health of younger Bangladeshis in the community. And whether the participants disclosed a regular intake of take-away foods or not, there was agreement amongst the community and the key informants that the number needed to be reduced and affordable, desirable, healthy options should be available. The perceived proliferation of the fast food outlets has been reinforced by a recent mapping of fast food outlets in Tower Hamlets (Lloyd S, Madelin T, & Caraher M 2009a). The high density living in Tower Hamlets meant that whilst 98% households were found to the within a 10 minute walk of grocery type store, 97% were also within a 10 minute walk of a fast food outlet. The study also found that there are 41.8 there junk food outlets to every school, this compares to the national average ratio of 25 outlets per school, 36.7 for inner London, and 38.6 for the ten UK 'worst' local authorities, thus making the chances of escaping the obesogenic environment in Tower Hamlets especially slim. Furthermore it was noted that this could actually be potentially underestimating the number of fast-food outlets as a number of food premises classed as off-licences (44 in Tower Hamlets) will also be selling sweets and confectionary and many operate in a similar fashion to grocer/mini markets. Additionally some premises classified as restaurants (605 in Tower Hamlets) as they have tables/seating essentially operate predominately as take away premises leading to further potential under counting.

However as already discussed, amongst the community participants, and especially the first generation men it was also felt that any reduction should not be at the cost of local businesses. It was a matter of relative priorities. Furthermore, despite an increased awareness amongst professionals of the link between health and planning and a willingness to work across sectors to make changes, partly as a consequence of the launch of the Healthy Weight, Healthy Lives national obesity strategy(Department of Health 2008c), implementation of changes has remained difficult. The changes necessary to planning regulation to enable local councils to make decisions regarding the type and number of food premises will be discussed in more detail at a later stage of this discussion when looking at the role of personal, government and corporate responsibility.

The modernising lifestyles of the second generation, as they become more acculturated to British society, have had a considerable impact on food culture. For the women in particular who are beginning to enter the workforce and/or take on further education, this has had considerable impact on the traditional role within the family, chiefly due to the time constraints.

The coherence and relevance of traditional cooking is being undermined as contemporary living demands quicker, easier and more flexible solutions. And as with the UK population as a whole, the Bangladeshi community is seeing the emergence of a loss of culinary skills and concurrent greater reliance on take-away foods and quick, 'English' meals such as pasta and pizza, especially when not living in a traditional family unit. The lifestyle changes are serving to shape a new culinary culture. Lack of food literacy and cooking skills with respect to non-traditional foods, together with the requirement to ensure halal choices, were the main factors considered to be contributing to the limited range of non-traditional foods purchased outside the home and that prepared. For the more recently arrived economic migrants from Dhaka, the issue is the need to learn new skills, including cooking, previously done by housemaids which can no longer be afforded following moving to the UK. This is an important issue needing to be addressed with education and enhancing practical skills with cooking classes being tailored to need to focus on how to choose and cook western foods for some and basic cooking skills for others. These themes discussed by the community participants were mirrored by the key informants. Where families have maintained a more traditional structure of the extended family the changes to dietary and cooking practices are far less apparent. The continued maintenance of family structure was seen to be unique to the Bangladeshi community in Tower Hamlets in comparison to other Asian communities. Lack of adequate housing however has also led to a breakdown in the family structure for some where it hasn't been possible to continue to live in their traditional extended family unit. Some community members noted that in these circumstances they will often visit their parents' homes in order to continue to share meals, especially weekends, thereby helping to maintain traditional food culture. The culture of sharing food continuing to be integral to family and social relations. This breakdown of the family structure as a consequence of inadequate housing is likely to increase with the Coalition Governments planned cuts to housing benefits where from April 2011, rents will only be paid at 30% of the local average and capped at £400 for a four-bed and £250 for a one-bed home. This policy change, coupled with the pressure already of limited suitable housing, is likely to result in a further reduction in the ability to live in traditional extended families, potentially leading to some having to move away from the more expensive real estate of an inner London Borough such as Tower Hamlets; the overall family budget being squeezed even further.

Advertising was another external factor that was thought to be a powerful source of information and to be negatively impacting on food choices. The community participants pointed to the power of persuasion of the advertisements; 'you see it and you want it'. Many judged that there was a deliberate targeting by the retail industry of the young and those from socially deprived backgrounds, especially by those selling foods high in salt, fat and sugar. When it came to the advertising of health messages however, it was thought to be wholly inadequate, having minimal impact compared to that of the commercial companies. In this respect there is value to the use of social marketing for dietary health messages however not if for example the very companies that are seen as pushing the less healthy options gain control of now trusted bands such as Change4Life as already discussed. This only further highlights the failings of the new Government direction.

Physical accessibility, with respect to transport, when purchasing food was generally not considered to be a significant obstacle amongst the community participants which is feasibly a consequence of the high density and general close proximity of food outlets. Where mentioned however, the limited number of supermarkets was seen as an access issue for those without cars. This was more so where the fresh produce that was available within walking distance from homes at the various markets and Bengali grocers was felt to be of poor quality and the local stores had limited healthy choice options. Lack space to grow fresh produce was also bemoaned, especially by the first generation men who yearn for the opportunity to grow their own vegetables; being seen as both a physically and spiritually positive activity; particularly for the women.

Overall cost has also not been highlighted as a substantial reason for not being able to purchase healthy options or an adequate amount of food amongst those interviewed. Considering the high levels of depivation within this community this was somewhat unexpected however may be a reflection of a perceived higher level of food security, especially when campared to the circumstances prior to migration for the first generation. For this generation they may have been used to spending up to approximately 75% of their income on food (Ghosh B K 2007) so, in relation to UK, spend on food it may be seen as 'good value' and a reflection of living in relative rather than absolute poverty. A number of the key informants however felt that healthy options, including snacks, were relatively more expensive, a perception shared by many in the general community. In comparison to Bangladesh the relatively high cost of fish compared to other meats, and fruit and vegetables was also noted amongst the first generation as a reason for the changed consumption patterns although a contradictory point was also made that it was possible to buy affordable fruit and vegetables from the markets. The degree of affordability was by and large seen as relative to personal importance, for example buying organic or imported Bangaldeshi produce. There may have also been some degree of perceived higher cost due a desire to live up to what are considered to be the prevailing living standards such as the ability to buy produce from supermarkets versus the market. Undoubtedly, the high intake of take-away options, together with the taste and high exposure is in no small part a consequence of its cheapness. An overall rise in food prices of 5 per cent was however seen in 2005-2007 after the completion of this research (Caraher M 2010), and a study by the Greater London Authority found that food prices 2008 were higher than overall Consumer Price Index (CPI) inflation (Kyte S & Hirani A 2008). This has had a negative impact on households who spend a relatively high proportion on food with the lowest two income deciles being hit disproportionately and therefore will have impacted on this community. Furthermore, low-income groups are projected to eat out more which may further exacerbate the intake of the poor quality fast-foods (Caraher M 2010). This serves to further highlight the wider social determinants impacting on food choices made.

8.2 Trends in eating patterns

Building on these various influences on the food choices being made the discussion will now focus on the trends in eating patterns between that have emerged from this research between two generations of British Bangaldeshis and between genders.
A change in environment, such as occurs with migration, can result in both positive and negative changes to food consumption patterns. Despite the dietary changes being seen however within this community, the traditional Bangladeshi domestic food practices remain relevant and strong. As noted, there continues to be a pride in Bangladeshi culinary culture and food is still a significant part of everyday life, especially for the evening meal. Differences are apparent in how this is being played out however for both the first and second generations and the degree to which this culinary culture is being eroded.

For the first generation, their lives have moved beyond recognition, migrating from an environment of rural self-reliance to an urban obesogenic environment where passive obesity is possible and some may argue, normal. The findings of this research confirm that the first generation is undergoing a nutrition transition which is predominantly as a consequence of urbanisation; the degree of change with respect to taking on a western diet has not however been considerable. As a result of this move to an urban environment, substantial changes have occurred with both food procurement and consumption patterns although they are also continuing to be influenced by relatively regular travel back to the homeland as already discussed. The continued links with family and the community in Bangladesh has helped maintain the social cohesion and the importance of being Bangladeshi, including reinforcing traditional food habits. While a strong retention of traditional cooking practices is still seen, and the staple of rice accompanied by curry remains dominant, the type of foods eaten has switched to the traditionally more expensive feast foods such as meat based curry and a much greater usage of fats together with a reduction in vegetable consumption; previously described as “an elaboration of traditional customs” (A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000). In the discussions relating to sharing food with family and friends, the first generation participants again expressed a greater tendency towards excess and indulgence not previously seen in Bangladesh. Changes are also being seen in relation to patterns of cooking and preparation, meal time structure and snacking habits as a consequence of changing work patterns within the family unit. The importance of the mealtime structure and eating together as a family for example was seen as remaining important to the Bangladeshi community, especially when comparing to the indigenous UK population, however as with the cooking practices, changing lifestyles have had a significant and negative impact.

The second generation have undergone a more apparent cultural transition which has had culinary and nutritional implications. Whilst the passing down of traditional cooking skills to daughters and daughter-in-laws was thought by most to be continuing, it was also observed that as a consequence of modern lifestyles, the connection to the land and family cooking traditions is becoming eroded. But whilst there was an apparent transition taking place there are certainly aspects of traditional food practices that are remarkably resistant. The question that

arises is what the culinary transition is moving to; are the second generation taking on a new food culture or is there simply culinary chaos. The answer appears to be both. There has been a decline of the traditional patriarchal society as the second generation women are becoming educated and taking up employment which is in stark contrast to their mothers. The extent, manner and timing of these changes are variable and dependent on the degree of acculturation to the British society but the changing roles within the traditional family structure has led to greater time spent away from the home, the need for childcare, and is impacting greatly on the traditional food culture with respect to time available for food procurement and preparation. The food habits seen in the UK are finding resonance among the young, urban, Bangladeshis who lack the confidence and the inclination to cook traditional meals. The increased willingness to incorporate new food choices by the second generation were not considered to be as a consequence of western influences but rather their greater flexibility and adaption to an urban environment. The issue of reducing confidence and increasing anxiety in relation to food and cooking for the second generation also emerged from the interviews in relation to food literacy such as how to incorporate the 'new' foods into a traditional diet. Many of the second generation who are increasing variety in the food choices being made, and want to experiment with cooking styles, lack the necessary culinary skills to do so. Using recipes to assist is a foreign concept, with cooking skills and complex recipes traditionally being handed down through observation and word of mouth. This loss of skills within the second generation was also exposed in the BIPOD study (Grace C, Begum R, Subhani S, Kopelman P, & Greenhalgh T 2008) The tensions being seen within the second generation, between their modernising lifestyles and desire to maintain traditional culture and foodways, to a degree is being played out through an assertion of identity in both food and dress in a multicultural society, which is often different to that of their parents. From the point of view of the second generation males, the assertion of identity was also a result of a degree of perceived Islamophobia which they were reacting to by becoming militant; a reflection of their place in modern society.

Possibly as a consequence of the increased availability of traditional foods, but also increasing health knowledge and awareness, within the first generation as already discussed, further more positive dietary changes are now occurring. This process has been described in Popkin's stages of the nutrition transition, where in stage 5, positive behavioural changes are seen (Popkin BM & Gordon-Larsen P 2004), for example the increase in fish and vegetable consumption and a reduction in red meats and added fat. This has implications for targeting nutrition education where for the first generation a focus would be on changing back to an authentically traditional diet comprising of fresh water fish, rice, beans, lentils and vegetables, where as for the second generation a greater focus will be required to increase food literacy to enable them to achieve a healthy balanced diet which also reflects their more western consumption pattern.

One constant in relation to cooking practices is that the cooking continues to be the domain of women with a few exceptions amongst the second generation men. The first generation women continue to take pride in preparing fresh dishes daily using the skills they learnt in Bangladesh, there is a resistance to change with tensions seen between old and new food cultures. The

modernising lifestyles of the second generation women is seeing a move towards incorporating quicker, easier and more flexible cooking such as pasta and pizza. Where these foods are incorporated by the first generation, this is usually as a result of pressure from their children to cater for their acquired tastes. Within both generations there has seen a change to incorporating frozen vegetables and pre-mixed spices, ready meals however tend not to be taken by either due to the concern for ensuring the foods are halal and a lack of interest in the vegetarian options. Convenience however is relative. Reflecting the varying degrees of acculturation and in contrast to the second generation, it was noted that for the first generation, there was convenience in maintaining traditional cooking, due to the assistance of family members as a consequence of living in an extended family environment. Where traditional cooking is continuing amongst the second generation, the style was also thought to vary due to being more health conscious and wanting to limit the unhealthy high fat, meat based curries, there was recognition however that this was in contrast to the increased intake of high fat western style foods. Some of the second generation men either expressed the desire to experiment with cooking. This was also described by others in relation to their family and friends. This was very much however noted to be for their own pleasure, for fun, rather than contributing to the preparation of family meals.

Whilst the second generation are continuing to identify with the traditional Bangladeshi food culture, the demand for convenience and quickness has seen eating foods outside of the home become common place and in particular the high fat take-aways which are prevalent in the borough. Particularly by the men, these take-away foods are taken both as quick meals at lunch time and for some, shared with their families during the evening. This significant and negative trend has already been discussed. Whilst not deemed to be such a problem for the first generation, it was felt by some of the key informants involved in nutrition education that their intake was likely to be more frequent than admitted; somewhat of a guilty secret. Casual observation of the clients in the food outlets reinforces this supposition. Those second generation participants, who would be considered more affluent, also reported enjoying going to restaurants for cuisine such as Thai, with their friends in the evening. Few of the participants however, either first or second generation, were likely to dine at the Bangladeshi restaurants which they saw as predominantly catering for the English palette and served food which was inferior to what was made within the home. This was an observation made in previous research (Carey S 2004) as described in chapter two. Again however there were a few exceptions to this. The incorporation of these alternative foods is however an adjunct to the traditional choices rather than a replacement for both the first and second generation. In some circumstances this is leading to a ‘doubling up’ of meals where fried take-away is taken as a snack and then the main rice and curry still taken for the main meal.

As has been referenced throughout the discussion, the most significant emerging dietary pattern was the substantial increase in feast foods as well as high fat, high salt take-aways. The trend is also being seen with an increase in grazing and the intake of high fat, salt and sugar snack foods, particularly amongst the second and younger generations of British Bangladeshi’s. The increase in snacking habits, compared to their parents, mostly comprises of energy dense

options such as crisps and chocolate in preference to fruit. A few of the young Bangladeshi women commented that simple snacks such as fruit were not seen as convenient unless the fruit had been 'prepared and presented', by cutting and peeling. Simply having the fruit available was inadequate incentive. For the young men in particular it was felt that there was an expectation, much like their meals in general, that the fruit would be prepared for them and that they have been taught to be lazy by the mothers. The first generation men were the most likely to report having fruit as a snack between meals and for the women fried Bangladeshi snacks or biscuits.

The centrality of food to the Bangladeshi culture and identity remains a significant bulwark against the globalising tendencies but this is eroding across the generations and already appears less so for the third generation. Some of the cracks which are emerging in the traditional Bangladeshi food culture are partially driven by powerful global influences operating at the macro level. The food industry is beginning to adapt to needs of community, such as increasing the availability of halal foods and imported Bangladeshi foods in mainstream supermarkets. The food service sector has also responded as noted previously by the proliferation of halal fast-food outlets. The increasingly globilised food chain has also been demonstrated by the increasing number of imported 'English' foods, supermarkets and convenience foods which are becoming more common in rural Bangladesh as they are in the UK, resulting in the beginnings of an homogenisation of culinary cultures. As a consequence, together with the general increasing acculturation of this community, the impact of the regular travel back to Bangladesh is likely in the coming years to have far less of an impact on maintaining traditional food culture than it has to date.

The detail of the trends in eating patterns being seen between two generations of British Bangladeshis from the interviews was supported by the detailed dietary information obtained via the multiple pass dietary recall. This information helped to confirm that the changes in dietary patterns are typically occurring in line with the model for adaptation to new food patterns (Kocturk-Runefors T 1991), beginning prominantly with the accessory and then complement foods, whilst the staple starch based foods remain far more constant. This was more so for the first generation where rice continues to be a staple in the diet, their cultural superfood (Fieldhouse P 1995), despite other changes to the components of the curry as has already been described.

In addition to the changes being seeing in the food choices there have also been significant changes occurring with the meal time structure. A greater focus is being given to the evening meal and weekends due to changing work patterns and school. The cultural importance of breakfast and lunch has diminished; a trend seen in previous migration studies (Mellin-Olsen T & Wandel M 2005). For those who are unemployed or are able to return home from work for the meal, traditional selections at lunch continue. For many who are employed however lunch is becoming commonly taken outside of the home is will often be a quick, convenience meal. Overall weekends tend to be more traditional than work days and the evening meal remains important for the majority although the ability to share this meal with the family is reducing with

absences often a consequence of work and study. The young second generation men were the least likely to attend the evening meal, opting for take-away instead, being 'bored' with rice and curry. The centrality of meal times is a reflection more of the social versus the culinary meaning of food.

Overall, food patterns identified can be summarised as falling into three categories, with the first two describing patterns seen dominantly within the first generation and the third that of the second generation:

- *Traditional Bangladeshi Pattern:* characterised by higher intake of vegetables, fresh fish, rice and pulses; low in fat
- *Urbanised Traditional Bangladeshi Pattern:* Increased intake meat and oil and reduction in fruit and vegetables.
- *Western Dietary Pattern:* characterised by higher intake of red meat, processed meat, refined grains, sweets and desserts, take-away foods and high fat dairy products.

Despite some postive changes beginning to occur, the general impression of the dietary patterns being seen, for both the first and second generation Bangladeshis, is negative, described by one key informant as the 'worst of both worlds'. Excess and over-indulgence were considered to be now embedded in current dietary patterns for both meals and snacks with the large portions and over consumption on a day-to-day basis as well as when entertaining family and guests. The changes being seen are a consequence of both urbanisation and acculturation to the British society with the coherence and relevance of Bangladeshi food culture is being undermined as contemporary living which demands quicker, easier and more flexible meal solutions. When compared to food and physical activity patterns being described in the Health Survey for England, the changes in general reflect the overall negative trends being seen in the UK. Trends which have resulted in the current epidemic of overweight and obesity and the resultant diet related non-communicable diseases such as Type 2 diabetes.

8.3 Factors influencing physical activity

Turning now to the factors found to influence the ability to do, or motivation for physical activity, these predominatly related to the availability, or not, of culturally appropriate facilities for the community to engage in planned activity; time; and the physical environment.

Overall the male participants, of both generations were the most likely to undertake some form of physical activity, although all participants recognised activity as having a positive impact for physical, psychological and spiritual well being. The first generation participants appeared to be strongly influenced by their historical experiences where physical activity was integral to daily life, such as walking to work and cultivating their own produce.

The need for purdah was considered essential amongst both the men and women and therefore the availability of adequate facilities was highlighted as a necessity. For some of the women they considered that there was a significant amount of stigma attached with being seen

exercising and concern for what other members of the community would think. This view was not held however by the more educated Bangladeshis and especially the key informants, some of whom felt that Bangladeshis living in Tower Hamlets were more traditional than those living in their homeland with Bangladesh being considered to be more progressive with respect to both diet and physical activity. Tower Hamlets in constrast being in a type of cultural time warp, even when even compared to other areas in London such as Southall; likely a consequence of the high degree of segregation within this community as noted in previous research (Eade J, Vamplew T, & Peach C 1996). The Imams reflected on the importance of physical activity and maintaining good health within Islam, noting that it is a consequence of the contradiction between this belief, and the distorted cultural tradition and culture, which has lead to the current lack of physical activity within the Bangladeshi community. A very clear distinction between was made between what is an effect of tradition and what is related to religion; a distinction that is very often lost with many people not understanding where culture and tradition stops, and religion begins. A number of the key informants, both Bangladeshi and non-Bangladeshi alike, perceived that there has been an increase in religious fundamentalism within the community, particularly amongst the men and women from the second and younger generations, which is seen as distinct from communities in their home land. It was highlighted for example the increased wearing of the hijab and naqib amongst the young girls which was felt to have resulted in further restrictions on their ability to participate in physical activity.

Environmental conditions and safety were also noted as impacting on physical activity but to a far lesser degree than the cultural constraints which were the main consideration of the community itself. The key informants noted the importance of creating an environment that people want to be part of, with adequate facilities seen as extremely important if we are to have any chance of increasing participation in physical activity or involving people in health services. This aspect would also seem to come down to a feeling of self worth in that people may not feel that they are respected or valued if they are expected to endure inferior facilities in comparison to what is available for people who live in more affluent areas. The Bangladeshi men felt that the health of the first generation women had deteriorated due to spending much of their time within the home. A second generation male noted that the women would have felt more comfortable in their Sylheti village versus the UK where they can walk more opening without concern for prying eyes. The only other instance where concern for personal safety was raised was regarding the young Bangaldeshi men, who they saw as hanging about on the streets, smoking dope, eating chicken together with the rise of religious fundamentalism as just mentioned. The fear for personal and children's safety was raised predominantly amongst the non-Bangladeshi key informants, particularly those working in public health and policy.

8.4 Policy context and professional practice

The discussion will now move on to the findings of the research specifically associated with the policy context at the time of the field work, providing an insight into the professional practice, and the consistencies and gaps between public health theory and government policy in relation to the prevention of obesity and associated diseases such as Type 2 diabetes. The findings

will also be further discussed in relation to the changes occurring to the policy framework since the field work was undertaken to this present time. The potential influence and implications of the emerging policy direction and the proposed changes to Public Health under the Cameron, Conservative-Liberal Democrate Coalition Government will be predominantly discussed in chapter nine, the conclusion.

Beginning with perceptions of the key policy issues and the drivers for public health policy in relation to the prevention of obesity and other diet related non-communicable diseases, the considerable economic, societal and human cost of obesity and associated disease were widely recognised across the breadth of the key informants although perspectives differed. Those involved at the grass roots level generally, although not exclusively, were sceptical regarding the Governments primary motives for moving obesity up the policy agenda, believing the Government was forced to begin taking action because of the enormity of the issue; the consequent economic burden being the principle tipping point for policy change rather than any concern for the societal or individual burden. Others, more closely involved in the policy arena, also pointed to the sheer enormity issue making some degree of action unavoidable with obesity and related diseases now classified as occurring in epidemic proportions, especially amongst the socially disadvantaged and migrant communities. The consequent economic burden escalating and being unsustainable in the future, some even indicating it could lead to a collapse in the NHS. The Wanless reports (Wanless D 2002;Wanless D 2004) in particular were seen by those working in public health as the dominant catalyst for the emerging public health policy changes. Their focus on the wider determinants of health, highlighting obesity and health inequalities as being the key threats to future health, as a consequence of both their direct and indirect costs to health services, national productivity, individuals, family and society as a whole. This reflects opinion noted in chapter four, where concern for such diet related ill-health in the UK was also seen to be fuelled by these reports (MacMillan T 2006). More recently, the strategic review of health inequalities in England post 2010 (Marmot M, Allen J, Goldblatt P, Boyce T, McNeish D, Grady M, & Geddes I 2010) has expanded on this understanding further noting that almost all problems which are more common at the bottom of the social ladder are more common in unequal societies. This current picture related to health inequalities, reducing the gap and highlighting the need to improve health and wellbeing for all, provides a policy handle for improving the quality of social relations in society. In addition to an understanding of the impact of inequalities on health there was also some limited recognition given to the synergies with other policy areas which would impact on the food chain, such as climate change, the two issues combined perceived to be powerful stimulators of policy change.

Following on from the Wanless reports, key informants working in public health policy development and implementation noted that there appeared to be a changing direction in health improvement at all levels, from one based on the management of disease in clinical settings, to primary and secondary prevention/early management in primary care. The 'Choosing Health' (Department of Health 2004a) public health white paper, in answer to the Wanless reports, was seen as a potentially positive move that would enable the opportunity to influence policy to tackle obesity with central Government support. The gap that emerged however between

theory and practice was that in practice there was a continued focus on the personalisation of public health, based on a medical model and treatment of disease, despite the growing rhetoric regarding understanding the influence of the wider determinants of health and the reasons behind 'why' behaviour happens rather than simply the risk behaviour itself. The underlying problem was that of an old system trying to deliver a new approach and attempting to retrofit old projects and programmes into new strategies.

The other gap highlighted between policy and practice was the tendency at all levels to work in silos. At the policy level, there was a recognition that different agencies were beginning to work together to influence the public health agenda but there was also concern that some opportunities have been squandered to an extent, such as with the Choosing Health white paper, where there was seen to be a lack of systematic coordination between the stakeholders and thus significantly reduced effectiveness. The system in which people were working was making a coherent, consumer centric, response extremely difficult to coordinate across the many agencies, groups, front-line staff and care professionals. The particular challenge was seen to lie with the differing and changeable agendas with the beginnings of a move to a whole systems approach and a greater focus on overall health and wellbeing being found to place demands on operational partners to work differently. But whilst historically there had been a fragmented approach and a lack of overall coordination, it was evident that there was also a greater willingness for change. The benefit of multi-agency working with the community and third sector in particular was recognised, with those who were already doing so finding it to be very positive for all members. The potential challenge of engaging with the third and voluntary sectors, coordinating the vast amount of untapped work was however recognised. And, despite the desire to embrace wider agency working, the current efficiency and effectiveness of many community led projects was seen as questionable with governance with respect to ensuring competency and meaningful evaluation often limited. And there were significant operational ownership barriers to translating strategy into action with the developing strategies being heavily reliant on contribution of these teams across partner and community organisations but who did not yet have obesity as their 'day job' or top priority. The change to a commissioner – provider split, with a shift to a focus on commissioning through structure and process, further increased the necessity to work across agencies. The resultant structural changes and consequent financial and human resource requirements however to set complex strategies in place were seen as having significant, and in some aspects potentially negative, implications. Leading for example to those working in public health to move into a performance management role over these various agencies with elaborate monitoring arrangements set against a range of internal and external targets. These arrangements were seen as detrimental to the role of public health specialists whereby more time was being spent telling people what you are doing rather than actually doing it. For those in the third and voluntary sectors it was recognised that the level of bureaucracy in order to compete in NHS 'system' of funding under this new approach would be a significant barrier. Moving Public Health into local authorities with a ring fenced budget, and the setting up of public health England may have some benefits to these structural issues. At the time of writing however the outcomes of these new structures remain unclear. This will be

picked up in greater detail in chapter nine, the conclusion, with respect to the implications for the theory of public health.

A further impediment to putting policy into practice was the lack of associated funding that came with the public health white paper. The short-termism associated with this lack of funding, at both the PCT and national level, was seen as a major barrier to the successful implementation of health related programmes to meet targets, with piece-meal funded projects over a range of timescales but little evidence of forward planning or mainstream activity. This has led to a bid culture with quick money versus coherent strategies. Furthermore, any available funding was seen across the agencies to be continuing to be targeted towards individuals and the treatment of conditions related to obesity rather than obesity itself and prevention of diet related ill-health. This lack of targeted, ring-fenced, funding towards public health and health promotion activities was highlighted as one of the most significant challenges to professional practice, with the disconnect between national obesity policy, funding and any business planning apparent. Even organisations such as the FSA noted that whilst they had a remit for strategic planning and national programmes it was noted that as with many organisations there is still the tendency to funding small interventions. Since the time of this research, as noted, there has been a change of Government and consequently a new Public Health White paper has been drafted. At the time of writing this is out for public consultation. The potential implications of this White Paper on Public Health, in relation to the issues raised by the key informants will be picked up in the conclusion.

In the time since the field work there has been a continued growing recognition of the importance of the wider determinants of health following the publication of the Foresight Tackling Obesities Report (Foresight 2007). It provided a long term vision of how we can deliver a sustainable response to obesity in the UK over the next 40 years and further shifted the emphasis from the treatment of established obesity to include prevention. The systems maps highlighted the interdependencies between the broad range of influences on obesity and the consequent necessary changes across the entire food chain, in the promotion of behavioural changes, the redesigning the built environment and society wide changes to promote a cultural shift in the values relating to food and activity levels. Following on from this report saw the launch of the first national obesity strategy, Healthy Weight, Healthy Lives, this gave the impression that the Government was finally coming to terms with the issue. But while there has been a continued ostensible commitment to tackling the wider determinants of health in order to halt the rising level of obesity, in reality the focus continues to be on personal responsibility and individual lifestyle change, with Governments remaining frightened of being seen as too interventionist. The pubic health approach has continued to be locked into cure rather than prevention and as a consequence the likelihood in attaining the transformational agenda required to tackle the obesity epidemic at the time of these interviews, as now, seems limited. Most recently, the Coalition's path of travel appears to be continuing in the wrong direction and to be an utterly inadequate response to the scale of the problems we face. The regressive changes already being seen with respect to public health policy, in combination with similarly

regressive changes being seen with education and the likely rises with unemployment, changes to social housing and cuts to social care is likely to have alarming consequences for the future.

Moving to the influence the key informants felt they, and the community, had on the development of public health nutrition policy, a variation was seen across the professions reflecting the multi-level governance seen within public health. For some, policy was considered to be predominantly top down, being principally influenced by national government through the production of standards and guidance documents and, then to a lesser extent non-statutory organisations such as Diabetes UK. Other significant influencers were thought to be the food industry through its perceived compulsion of the Government for example not to impose mandatory regulations relating to advertising and food labelling, and the communications industry regulator, OfCom. There was also concern expressed that the relevant experts weren't involved in policy development leading to poorly directed and ill-defined policy.

The policy officer from Diabetes UK felt able to influence and shape policy at the national level via responding to public health related consultations such as NICE guidance, as well as gathering expert opinion. They also noted a role in consulting across agencies such as with the Food Standards Agency. Qango's such as the FSA, as reported by the key informant from the nutrition division, saw their role in the provision of information as part of the prevention agenda but not relating to any specific disease state which is seen to be the responsibility of Government. The recent reduction in Qango's under the new Coalition Government has seen a further reduction in the remit of the FSA which is to be merged back within the Department of Health and its role likely to be restricted to the traditional sphere of food safety and hygiene rather than the more recent public health campaigns such as reducing salt and saturated fats.

For the Dietitians, differences in policy and strategic responsibility were revealed between those who had a predominantly clinical role to those who led on national policy. At the clinical level it was noted that there was very little engagement with policy and strategic direction, feeling that the policy guidance coming down from government was too onerous to be of use in practice. Those with public health responsibilities saw their role being in the implementation of government policy and NICE guidelines rather than actually influencing their development. Furthermore, the Public Health strategic leads within Tower Hamlets PCT, with their core leadership role in analytical and evaluation functions, whilst recognising the importance of addressing the wider determinants of health such as education, housing and planning, highlighted the immense difficulty in reality of joining policy from the different areas. At the time of the interviews, the focus within Tower Hamlets was on social marketing and segmentation of the community to tailor information delivery and education, especially in relation to prevention, in line with the governments' personalisation agenda with personal responsibility emerging out of informed choice. Since the time of the interviews, social marketing has continued to be dominant in public health, most notably evidence by the £70 million national change4life campaign, part of the Healthy Weight, Healthy Lives obesity strategy. This campaign starts to address and recognise the cultural aspects of food choice however it focuses on consciousness raising and teaching people to make more sensible choices in relation to the specific behaviours

that lead people to become overweight and obese. The aim is to be the catalyst for a societal shift in lifestyles, rather than changing the material realities such as curtailing the abundance of cheap fat and sugar, imposing restrictions on advertising and the proliferation of the fast food shops seen in poor working class areas such as Tower Hamlets. The importance given to the Change4Life campaign as a component of the overall obesity strategy is disproportionate to its ability to address the underlying issues.

At the grass roots level the emphasis was on the need to work within a community development model, engaging with the local community to improve the long term sustainability of interventions. There was a far greater understanding of the need to consider the social dimensions of food choice along side any biological, material, environmental or economic considerations. But, while lay members of communities are increasingly being recognised as being the foundation on which good policy should stand, many felt that currently there is often the intention but not action. Responsibility for this was not only laid with those higher up in policy but also with the community itself who were considered by some to be ignorant to the issues and thus not interested in participating. Another point made was that there is a need to ensure policy makers are not simply including people from the community in order to meet obligations rather than actually valuing their input. Where there was representation, it was often at a stage when the decision had been made therefore the concept of active engagement with the community lacked any real conviction. Furthermore, the need to ensure policy makers engaged with the community in a manner that did not result in unfair power relationships was noted. On all of these aspects there is seen to be improvements being made and a genuine willingness to change practice. The NICE public health guidance on community engagement to improve health(NICE 2008), published after completion of the research, reflects the concerns and subsequent recommendations outlined by the research participants. The guidance provides guidance on community engagement and community development approaches to health improvement in order to get communities involved in decisions that affect them, the goal being to improve the appropriateness, accessibility and uptake of services, as well as potentially impacting on people's health literacy.

In relation to policy research, and looking at the extent to which Public Health facilitates the engagement of Civil Society, those key informants working at a policy level unanimously felt that there needs to be a move to using the best available evidence based on the precautionary principle. This included using practice based evidence such as the informed opinions of stakeholders and experts which are rooted in their lived and / or professional experience and knowledge. This was considered important to ensure contextual relevance and in order that progress is not impeded as has been so often the case in policy development. While evidence is certainly seen as necessary it was also recognised that it shouldn't be used alone to legitimise potentially politically motivated agendas, with moral and social values also needing to be taken into account. Many comments centred on the need for a greater understanding of the drivers of choice within communities in order to be able to develop prevention programmes, as was being done to some degree with the social marketing research. In this context, there wasn't a move away from quality practice but rather there was the acceptance that some interventions

may fail but the emphasis should be on monitoring and evidence collection to determine which measures are successful, which are not, and which may be promising, and then sharing this information with others. Furthermore, the tendency for large scale research to focus on the Caucasian population was thought to have lead to a considerable segment of the population, often the most vulnerable, being excluded from policy work. But in response, the Blair Labour Government was seen to be beginning to focus on inequalities resulting in more targeted research into deprived communities, including those from ethnic minority groups. This included increasing community involvement to inform policy direction, and gaining insight into the issues from those that live them to a far greater extent than had been seen under the previous Conservative Government. The new Coalition Government appears to be making efforts to continue this community involvement via their "Big Society" approach which claims to have at its heart the ambition to "put more power and opportunity into people's hands"(Cabinet Office 2010), the potential implications of which in light of the simultaneous wide ranging cuts affecting a range of services and organisations will be discussed in the next chapter.

Despite this move to a greater acceptance of different forms of evidence, there has continued to be an obvious concentration bias by Government to match evidence to the politically more palatable, potentially ideologically based, aspects of obesity policy. There remains an apparent prejudicial reliance on evidence relating to individual responsibility and behaviour change versus that which would facilitate the significant societal, structural and statutory changes necessary to tackle the wider determinants of health. It is unlikely a coincidence that it is these later changes that are more often opposed by lobby groups such as the food retail industry or see protests from 'Daily Mail' style media remonstrating about the dangers of the nanny state and loss of personal freedom to choose.

An example of opinion based, media driven, policy versus evidence led policy was noted by one of the key informants working in national nutrition policy in relation to the minimum nutrition standards imposed on schools in 2005. Following an FSA report in 2004 highlighting how poor school meals were in secondary schools in England, and despite public health nutritionists 'knocking on doors' of politicians, presenting the results and cases of obesity in schools to government committees, it took a TV programme in 2005 where Jamie Oliver delivered a petition from the public on school meals for the policy changes to actually be made. Oliver made the changes more palatable, and his input can be seen as an example of the potential for advocacy in driving public health changes forward, the lack of a coordinated approach amongst the key stakeholders; professionals, schools, parents and children, was seen to have had unforeseen negative consequences to the very groups that the policy was trying to support. The reactionary nature of the policy change, and consequent lack of coordinated implementation in partnership with key stakeholders, was seen to reflect a Government more easily influenced by the media than evidence based science. This has now continued to be exemplified by the new Secretary of State for Health, Andrew Lansley, comments to the British Medical Association's annual conference where he criticised this campaign to improve school meals for personifying the nanny state, its intrusion and lecturing to people, a noticeably ideological rather than evidence based position. The new Coalition Government proclaims that

policy will be strictly evidence based but evidence is being ignored, as is expert opinion. The precautionary principle is being scrapped.

Finally, moving onto the role of the State, corporations and personal responsibility a policy debate emerged between the interviewees with respect to the degree of responsibility attributed to each in relation food and activity in dealing with the obesity epidemic.

Whilst there was wide agreeance that there is a need to move away from personalised / community based, victim blaming, approaches where ethnicity for example may be seen as a risk factor, there was also a strong belief that personal responsibility still was an important aspect of any health policy and in determining the choices made. For the majority however this was set within the context of the myriad of factors that also impact on the choices that we make and thus the complexity of food choice overall. It was noted that whilst people do make poor choices these are not made in order to become overweight or develop diabetes but rather these are an unfortunate consequence. The issues outlined by the key informants, as with those from the community interviews, highlighted why a biomedical, personalised approach is inappropriate as the main method of tackling this problem; this approach does not address inequalities and could potentially further widen the gap if not appropriately targeted. But there were some who felt that the consequences need to be actively considered rather than simply allowing passive consumption and inactivity. The community workers in particular that thought people should "take control" and were more likely to voice the belief that people need to be "told". There was recognition that we need to harness the knowledge, skills and cohesiveness of the strong civil society, particularly evident in close-knit communities such as the Bangladeshi community in Tower Hamlets.

In chapter four I reflected on how we had been seeing the popularisation of the debate on issues of public good and public utility and the vilification of the overweight and obese by some in the media. But at this extreme of personal responsibility, whereby some were suggesting limiting access to health services, such as surgical procedures for those who are obese, the key informants overall felt that this was morally inexcusable and ethically unacceptable, raising the question of where this type of restriction on access to services would stop, as well as reducing an extremely complex issue to one of individual responsibility alone. With this in mind however restrictions based on genuine concerns for adverse clinical outcomes were considered acceptable as are any other contraindications for a defined intervention. This victim-blaming approach appears to be re-emerging and gathering momentum again more recently but now cloaked under the guise of needing to rationalise health care in light of the needs to reduce budgets in this time of economic austerity. Again we are seeing the reduction of an extremely complicated societal issue, based on a complex web of influences, to one of behaviour change and individual choice. We are certainly yet see the all 'triggers' necessary for successful Government regulation of personal behaviour (Kersh R & Morone J 2002).

There was an almost unanimous belief that the Government had a significant role and responsibility in helping to reduce the obesogenic environment but there were mixed reviews

regarding the what form this should take. The two main themes emerging were the need for planning policy and the need for statutatory regulation. This was within the context of recognising that policy needs to move past the individual and cross agencies such as media, and transport as well as health.

With respect to planning policy, the focus was on the most visible issue in Tower Hamlets – the high fat, poor quality, fast food outlets which are seen to be endemic within deprived communities such as this whilst at the same time being a vacuum of healthy options. Change was thought necessary to halt the continued proliferation of the already large number of outlets and enabling local authorities to limit the number within a defined area. There was a degree of ambivalence however, especially evident amongst the community participants many simultaneously believing for that there needs to be a reduction in the number of outlets, understanding the negative impact on food culture and health, whilst still wanting them to be available as they supply food which is after all 'tasty' and meets there desire for quick, cheap alternatives to the traditional curry and rice. As mentioned, there was also concern for maintaining predominantly locally owned businesses and hence the local economy regardless of the type of business and the negative impact the outlets may ultimately have on the community. The food industry in Tower Hamlets whilst restraining the choices of the consumer due to the homogenous nature of the outlets available can still be seen to responding to the consumer desires of the community; it has after all, as noted in previous studies (Carey S 2004;Collingham L 2005) adapted quickly as evidenced by the ever increasing availability of halal foods. The current Healthy Weight, Healthy Lives national obesity strategy recommends local authorities use existing planning powers to control more carefully the number and location of fast food outlets in their local areas. In reality however this has proven to be extremely difficult and there appears to be a lack of true political will to make statutory change and enable such harder policy instruments to be implemented, addressing one of the key environmental factors affecting food choice. Further complicating this has been the long term issue that planners don't understand health and health professionals don't understand planning. The World Health Organization Healthy Cities project launched in 1978 has as its ambition to promote health and well-being through action at the level of individual local authorities. An extension of this in the UK is the WHO Collaborating Centre for Healthy Cities and Urban Policy established in 1995 at the University of West England. More recently, organisations such as NHS London's Healthy Urban Development Unit (HUDU), established in 2004 and funded by the 31 PCTs across London, aims to respond to London's unique challenges, by improving communication between spatial planning and health sectors. But despite increasing recognition of the importance of integrating health into spatial planning to support and promote healthier communities the NICE group on spatial planning established in 2009, has been discontinued by the Department of Health reflecting that despite the growing evidence, this is not seen as a priority, Ministers feel that this topic previously referred to NICE is not appropriate for NICE guidance (NICE 2010).

The second theme of statutatory regulation was seen to be most important in areas relating to the food industry such as front of pack food labelling, where the voluntary code is seen as

ineffective, and limiting the choice of unhealthy foods through fiscal measures. Amongst the community members and third sector in particular, concerns were expressed about the use of fiscal measures such as increasing the tax on high fat, salt and/or sugar foods believing the burden would unfairly fall on those who are already vulnerable. Using price flexibilities however to reduce the price of fresh produce was considered a valid option; there was more appetite for incentivisation than restriction. This was reflective of the general mood in society, with food becoming increasingly 'politicised' and interference distrusted with concerns about the influence of the nanny state.

As with the Government, greater corporate role and responsibility was seen as necessary to help enable people to make healthier food choices. They were considered to have a major role in the proliferation of the now excessive number of unhealthy choices available. Whether this responsibility was via a voluntary code or via statutatory enforcement was unclear with many seeing the former preferable but within specified time frames for action, but others as noted above seeing voluntary codes ineffective. As already mentioned, concern was expressed in relation to the considerable influence the food industry is seen to have on the government's policy decisions as well as purportedly independent bodies such as OfCom. This was expressed particularly in relation to the voluntary codes of practice where the food industry was seen to have the 'upper hand', dictating to government what they will and won't adhere to. The other major area of influence from the food industry was seen to be there considerable influence on purchasing practices via a multitude of schemes ranging from product placement and incentive schemes such as loyalty cards, to the ability to buy large swaths of land and consuming small business in their wake. The complexity of the issue with respect to where the power struggle actually lies was also noted in respect to what 'battles' the government needs to focus on, as well as the fiscal imbalance between the food industry and government. Despite the concerns about corporate power, it was also recognised that whilst there is a large amount of poor practice within the food industry there were some positive changes being made which may be a consequence of changing consumer demand. The opportunities for the food industry to be proactive in engaging with the public and to make large scale changes were acknowledged. This included the population wide potential, such as working with the FSA on the reformulation of processed foods, and improvements in the way the catering sector promotes the healthier options. The difficulties of working with industry due to differing agendas were however highlighted, as was the lack of coordination between the public and private sectors. These issues will be picked up again in the conclusion when outlining the policy implications of the findings and the emerging Government public health food policy; in particular the invitation to industry to assist in drafting the policy rather than leading the way with respect to mandatory action and the 'responsibility deal'.

This chapter has discussed the findings of the community interviews and described the complex web of internal and external factors that influence the food and activity choices made by first and second generation British Bangladeshi living in Tower Hamlets East London, the emerging dietary trends, and the implications for the development of obesity and DR-NCD such as Type 2 diabetes. The discussion then moved on to illuminate how the policy framework at the time of

this research reflected the epistemological dilemma of a sociological issue continuing to be addressed with a largely clinical solution. This reflected a Government which despite outward appearances of a greater understanding of the impact of inequalities and the wider determinants on health, has in fact remained committed to a personalisation of the health agenda, maintaining a reductionist, over-individualised approach to altering food and activity behaviour. The lauch of the national obesity strategy following on from the Foresight report saw a step change towards taking a multilevel, multisector approach however there remained an overemphasis on personal responsibility. The election of the new Coalition Government has seen little change in policy direction, instead reflecting a degree continuity between and across party lines with the concern of being seen as too interventionist, although are evidently more regressive with the changes happening on a larger scale and faster pace. The evidence, even more than previously demonstrated, is being ignored despite the rhetoric and Government appears to be moving towards of putting business interests on parity with public health in an ideologically driven shake-up of the health system. The population-wide regulatory approaches which have been shown to reduce health inequalities are being ignored and pushing further to relying on education and an individualistic approach to health promotion. The positive steps that had been starting to be made are now at risk of being dismantled.

This thesis has explored through in-depth analysis, from a social, political and economic point of view, the rising rates of overweight and obesity and the emerging epidemic of Type 2 diabetes in the Bangladeshi community in Tower Hamlets East London. The findings contribute to the body of knowledge relating specifically to the understanding of the contextual factors influencing food and activity choices in a healthy population, as perceived by the community itself and key informants, and to exisiting public health theory and food policy related to the prevention of obesity and diabetes in migrant communities living in the affluent West.

The findings of this thesis have added layers and richness to the body of knowledge and shown the value of looking at real life experiences and the social circumstances for understanding why food and activity choices are being translated into the increasing rates of obesity and Type 2 diabetes. The research has further teased out the differences within this Bangladeshi population and emphasised that it is a mistake to merge this community as a seemingly homogenous group. Even in this tight knit and highly segregated community there are significant variations between generations and genders as well as within generation and gender groups. It has been possible to differentiate between the impact of the first generation moving to an urbanised obesogenic environment versus the cultural transition occurring within the second generation with its nutritional implications. Together with gaining a greater understanding of the particularly challenging circumstances of many of the first generation women, the impact of changes to a patriarchal society on the second and subsequent generations, and the implications of an increasingly disinfranchised youth. These findings are vital for the public health and food policy world to recognise. By taking a policy context it has been possible to provide further evidence for taking a social nutrition approach rather than the continued adherence to a clinical solution for a social problem.

The methodology has shown the benefit of involving the community being studied in the development if the research approach and working with intermediaries to engage with what has been traditionally classified as a 'hard to reach community. The use of Bangladeshi facilitators who were part of the same cultural arena as the community participants and matched with the same gender, along with working with a local community organisation with strong links to the community, enabled the research to straddle the barriers of culture and language, and gain the trust of the participants. The research approach has emphasised the importance of gaining inter-disciplinary perspectives from the stakeholders who reflected the multi-level governance within public health.

The final chapter will now go on to consider the implications of this research and findings for the theory of public health and food policy, as well as for professional practice for those working with the Bangladeshi community in Tower Hamlets specifically as well as more generally with migrant populations. I will reflect on the Labour, Conservative and Liberal Democrat consensus towards an individualistic, lifestyle related public health policy, as well as reflecting on the research process itself and potential future research agendas.

Chapter 9 Conclusions

Chapter eight has looked at the findings from research undertaken in 2006-2007, written up in 2008-2010, reflecting and discoursing this snap shot in time. The discussion has drawn out the main concepts and issues arising from the interviews with the community participants and key informants. The psychological, socio-cultural, economic and environmental factors influencing food choices and physical activity for this community have been detailed to help answer the questions of who does what, why and when in relation to food choices, and the trend in eating and physical activity patterns between two generations of British Bangladeshis defined. The potential effect of educational levels, social class, access to housing and employment status within this community have also been reflected upon as well as considering the broader policy context from the point of view of the community participants together with the diverse range of key informants who influence obesity and diabetes prevention policy, and reflect the multi-level governance within public health.

This final chapter now looks at the implications of these research findings for public health theory and food policy, as well as for professional practice and that of other local actors, bringing together the final conclusions in a new era, a time of economic austerity following the financial crisis that began in 2007 and continues now. The conclusion will be set in the context of the consequent changes being made by the Coalition Government to Public Health and the massive and controversial overhaul to the structure of the NHS and and other relevant areas such as the welfare system. The chapter will conclude with my reflections on the PhD process and undertaking cross-cultural research, and recommendations for future work and research.

9.0 Implications for the theory of public health

Central to this thesis was the preposition that obesity and Type 2 diabetes are largely preventable with many of the risk factors being amenable to a wide range of public health prevention strategies. The core tension was whether the increased prevalence of obesity and Type 2 diabetes in this community in the East End of London could be explained clinically, socially, or both and the impact of this for future public health and food policy. It was proposed that in order to be able to prevent lifestyle 'choices' manifesting themselves as medical conditions then it is first essential to understand the complexity of the factors that impact on the choices being made. That is, not only 'what' choices are being made and their clinical consequences, but 'why' and this inherently includes the need to take on the cultural dimensions of choice. This research has confirmed this long lasting theory in Public Health, revealing the complex web of interactions which weave together to influence the choices being made in this community and highlight the interconnectedness of diet and culture and the relationship to a culture in transition. After the completion of this research the chief scientist's multidisciplinary Foresight team further reinforced the complexity of this issue again emphasising that there are multiple rather than single drivers affecting the choices people make.

And after many years of academic analysis and policy cacophony finally a new policy framework was yielded, with the necessary leadership and budget with the launch of a national obesity strategy, Healthy Weight, Healthy Lives (HWHL).

Through the lived experiences of the first and second generation Bangladeshi participants and the key informants, the research looked at how they interpret their world through eating. The relationship between the built environment, the physiological world, the social world of human interactions and the consumers' world has been demonstrated. The community has shown an increasing knowledge and understanding of the benefits of a healthful diet and physical activity and of the implications of this for long term health and the prevention of NR-NCDs which was verified by the key informants. Despite this however there was a significant amount of ambivalence and while positive changes to diet and physical activity trends are beginning to emerge the predominant diet for both generations remains poor and activity limited. In other words, knowledge is not being translated into action. But what was also revealed was the wide range of internal and external influencing factors of the choices made such as their tastes and preferences built up over a lifetime and affected by their changing life circumstances, the impact of changing family structures and increasing education and employment for the second generation women on the increasing loss of culinary skills and poor food literacy, religious restrictions and the uniqueness of the community with their high degree of segregation and finding their identity in a multicultural society. As such the research has reinforced that the changing face of public health has necessarily moved away from being about medicines, vaccinations and inoculations to an ecological approach that recognises that health determinants are complex, occurring at both an individual and societal level, and that it is the environment that has changed, not genes and physiology.

As such public health strategies for the prevention of obesity and NR-NCDs need to reflect the multi-level governance emerging – nutrition science, social nutrition, government (law), civil society (demands) and the supply chain (company regulations). They need to be long-term, coordinated at national, regional and local level, be built on partnerships between the public, private and non-profit sectors, have resources made available for implementation, and the implementation of measures needs to consider local conditions and be based on the participation of the target groups. However despite this, a reductionist medical approach, with the focus on individual lifestyle change, is continuing to be taken. There is continuity between and across party lines, a continuity that has not been helpful in getting changes which will address the kind of findings this research has generated. Governments have been and remain frightened of being too interventionist and public health is too locked into cure not prevention. There is a reliance on the individual and short-termism prevails in work and politics. The analysis is structural but the solution is individual and project based such as cooking classes and small growing schemes. There is more interest in consciousness raising than altering material realities and a reluctance to talk about income drivers and cultural inequalities. We are not seeing the necessary attention and Government action concentrated on the things which damage people's health which are beyond the control of the individual and subsequently we in public health will continue to pick up the consequences of decisions made elsewhere in society.

The current policy began with Labour but is accelerating rapidly under the Coalition Government with an increasing focus in individualised public health and the personalisation agenda.

The Coalition Government's public health white paper, whilst being based on the recommendations of the Marmot Review, and ostensibly recognises the need to tackle the wider determinants of health including addressing the inequalities gap, is at the same time in the context of wider structural changes to the welfare system, the NHS, education and funding cuts to the local authority. The current indicators in the public health outcome framework do not contain the Marmot indicators and there are significant gaps around the issues of sufficient income for health and income inequalities. The planned changes to the NHS will result in a change in ethos, purpose and outcomes due to opening the doors to large private corporations on public and community services and risks increasingly fragmenting services. This move towards an infinitely variable number of organisations is likely to impact on the communities' confidence and trust and there is a question of who will be held accountable and what the governance structures will be. The transfer of health improvement functions to the Local Authority, and joint responsibility for Health and Wellbeing Strategies between the local authority and public health, has the potential to more effectively tackle the wider determinants by bringing together key players across policy silos such as adult social care, housing and transport. This cross-sector working was highlighted as an essential component of effective strategies by the key informants, and it is a key component of the emerging ecological approach to public health, but there is concern about how to effectively sustain links between pubic health and the new GP consortia once the primary care trusts are abolished and there is increased private influence on health services. Also, whilst GP consortia will be encouraged to sit on the joint health and wellbeing boards, it will not be statutory. There is therefore a risk of loss of the public health function within the NHS and move back to treatment of medical conditions. While 15% of QOF payments will be based on evidence based public health interventions, the funding will come out of the overall estimated £4 billion public health budget and there will be a need to ensure they are outcomes rather than process based as now.

The structural changes occurring risk impacting on the very communities which need the greatest support, such as the Bangladeshi community in Tower Hamlets where the majority of the community belong to the lowest socio-economic deciles; live in over-crowded housing; have low levels of educational attainment and see the highest level of child poverty in the country. Measures to improve public health, relating to obvious and mundane matters such as housing, smoking, and food, lack the glamour of high-technology medicine, but what they lack in excitement they gain in their potential impact on health, precisely because they deal with the major causes of common disease and disabilities (BBC news 2011;Caraher M 2010). The onus on consumers for step change by 'nudging' them to make behaviour changes as the core focus of public health policy is absurd. This assumes unbridled choice but as described in reality is restricted by a myriad of factors, many of which are beyond the control of the individual. The Government is looking for a 'magic bullet' but the evidence for this is simply not there and there is concern about abdication of the role of the state for the vulnerable. Behaviour change is only one component and action needs to be taken to move further up the ladder of interventions

including where necessary to legislate in ways which may restrict freedom of choice such as removing unhealthy foods from shops or restaurants (Nuffield Council on Bioethics 2007). To achieve this however political ideology and vested interest needs to be separated from science and a mandate needs to be created for why this is important. The public health policy framework needs to cover four dimensions. Material, that is, how our physical environment frames what we do however this not being addressed with the continued move to personalisation and corporate responsibility. Physiological, how our bodies work in that environment and the natural response to an obesogenic environment. Socio-cultural, how human relationships mediate and reinforce behaviour, such as understanding the changing gender roles and impact of lifestyle changes amongst the second generation Bangladeshi women, and psychological, the food culture as ways of thinking. History has shown that regulation works, tobacco control being the obvious example, whilst evidence shows that individualisation of issues doesn't. The industrial scale change required is simply unfeasible with this approach.

The ring fenced public health budget is another seemingly positive change in Government policy and will address one of the key complaints from key informants that resources have not been available for implementation of strategies. How this budget will be distributed however remains unclear other than there will be a split between that provided directly to local authorities and that held by Public Health England for direct commissioning via the commissioning board and GP consortia. Furthermore, the formula for providing the premium incentive based funding to local authorities is yet to be determined but there is a risk if not adequately designed, will result in the same target based culture as now. To ensure progress, any link between the outcomes framework and the health premium needs to be across a basket of indicators such that it will avoid 'cherry picking' and the 'hitting the target but missing the point' effect symptomatic of previous target based approaches. Plus, outcomes are going to be more difficult to achieve on the back of the wider cuts to local authority services and consequent reduced capacity to implement changes. In areas such as Tower Hamlets with a large population churn, and people from disadvantaged groups continuing to move in, there is concern that the issues that this brings won't be adequately recognised and the health premium is at risk of being a blunt tool. The Government will need to ensure that it doesn't simply have a system that results in rewarding those who seem to be succeeding; rewarding the 'rich' and punishing the 'poor', further increasing inequalities. It won't be until 2012 that the shadow budget is revealed.

The importance of working with the voluntary sector was also highlighted during the research. The key informants remarked that substantial improvements had occurred following the election of the Blair Labour Government. The publication of the NICE guidance for public engagement (NICE 2008) was an indicator of this moving up the policy agenda however this cross-sector working and community engagement is now at risk despite the rhetoric of the 'Big Society'. The 'Big Society' is core to Government policy, including public health, and claims to have at its heart the ambition to "put more power and opportunity into people's hands"(Cabinet Office 2010). These plans for a civil society however appear to be conditional, formulated and complicated, and to date appear to be favouring large voluntary groups, with smaller grass roots

organisations already struggling to compete for funding and some ceasing to function. But it is these smaller groups, such as Social Action for Health in Tower Hamlets that have the required knowledge, skills and community trust necessary to most effectively work with the community in which they are based and who have been the most powerful advocates for their community. It is these smaller groups that have started to achieve access and voice in the decision making of relevant institutions; to change the power relationships between these institutions and people affected by their decisions, thereby changing the institutions themselves; and resulting in a clear improvement in people's lives.

Another move of great consequence as part of the new government public health strategy is the launch of 'public health responsibility deals' with food companies. These are heavily reliant on the concept of corporate social responsibility, with a clear presumption in favour of partnerships and voluntary regulation (Gilmore AB, Savell E, & Collin J 2011). The HWHL national obesity strategy also recognised the important role and influence of food companies, and the recently published Global Status Report on noncommunicable diseases recognised how they can work with Government to promote healthy lifestyles and implement action to promote healthy diet by: reformulation to reduce salt, trans-fat and sugar in their products and ensuring responsible marketing (World Health Organisation 2011). However, corporate and personal responsibility should not dominate policy and delivery and flies in the face of the evidence of what actually works in public health. The wealth of evidence suggests that no single lever can reverse social trends, as seen in Tower Hamlets; knowledge alone cannot offset the myriad of other factors influencing decisions. There are considerable concerns that business is being charged with setting goals rather than helping to shape the delivery of those goals set by public health bodies. Scepticism has also been expressed about the process of working with industry to achieve public health benefits where there is a potential to cut across the industry's fiduciary responsibility of maximising shareholder value and profit regardless of consequences to health, society, or the environment and thus to oppose policies that could reduce their profits (Gilmore AB, Savell E, & Collin J 2011;O'Dowd A 2011). It is not necessary to give food companies such a prominent seat at the policy-making table to have legitimate engagement but instead requires that conflicts of interest are actively managed within health policy. The fact that rates of tobacco use have fallen by 25% in the UK in the last decade, while obesity rates and morbidity and mortality from alcohol use continue to rise, it makes the starkly contrasting approaches to tobacco versus food and alcohol corporations and their roles in policy making alarming (Gilmore AB, Savell E, & Collin J 2011).The tactics employed by major food companies to sell their products and influence their regulatory environment are known to closely mirror those employed by the tobacco industry. Their focus on personal responsibility, there are cries of the nanny state claiming that government intervention infringes of civil liberties and they vilify critics (Gilmore AB, Savell E, & Collin J 2011). For the food industry, it is obvious that partnerships with health charities and health sector organizations are desirable. Gaining control over the Change4Life brand is particularly alluring. The previous Government allocated £70 million to the campaign as part of the Healthy Weight, Healthy Lives obesity strategy and internal research has shown exceptional brand recognition. The Government is scaling back tax payers contribution and is asking others including charities, the commercial sector, and local authorities to fill the gap. But

as discussed, the charities and local government is being squeezed which will therefore ultimately hand the campaign to the food industry. Partnership therefore buys corporations credibility, tying their brand to the positive emotions attributed to their partnered organization and helps buy consumer loyalty — all good for share holders (Freedhoff Y & Hebert PC 2011). On the other hand, this risks breaking the trust of the consumers. Putting the industry in the driver's seat of this policy strand orientated at culture change, which has prided itself at accessing hard to reach groups, is regrettable and puts the fox in charge of the chicken coop (Lang T & Rayner G 2010). The community participants recognised the need for a social marketing approach from the Government to promote healthy options and start to help counterbalance the advertising tactics used by the food industry, especially those targeting children. This blurring of lines between government responsibility and corporate influence is therefore likely to be seen with scepticism. Another benefit to the food industry is obfuscation. As discussed in chapter 3, excessive energy or caloric intakes have been identified as the primary drivers of rising obesity rates and the food industry spends around £0.5bn are year on advertising, often for high calorie products (Lang T & Rayner G 2010). The food industry however prefers to emphasis that it is inactivity and not the promotion and over-consumption of its calorie-rich products that is the prime cause of obesity (Bray GA, Nielsen SJ, & Popkin BM 2004;Freedhoff Y & Hebert PC 2011;Popkin BM & Gordon-Larsen P 2004;Popkin BM & Nielsen SJ 2003).

The downgrading of the HWHL strategy is extremely risky as without the system wide actions there will be little hope of turning around this public health crisis such as is occurring in Tower Hamlets. The policy changes appear to be wholly inconsistent with existing evidence of public health effectiveness, instead being closely aligned with industry preferences as commented on above. This faltering leadership is of concern especially as the EU is currently supporting a 28 country project to examine the ways in which governments, food companies and civil society is working together cooperatively to tackle the obesity issue (Lang T & Rayner G 2010). The UK is being seen as the leader in developing strategies to address this epidemic so the dismantling of this strategy will surely be met with concern as it is being within the public health community. Alongside the diet and health responsibility deal sit the dismantling of the FSA back to a food safety role and a loss of its function as a regulator and its public health and nutrition role. This will further play into the hands of industry and will certainly remove an irritation to food companies to change their behaviour but reinforces an ideological shift, further reinforced by a reduction in the power of NICE. As mentioned in the discussion, public health guidance such as that for spatial planning and health is being scrapped and others such as 'Preventing obesity using a whole-system approach at local and community level' and 'Social and emotional wellbeing of vulnerable pre-school children' suspended.

Especially in times of economic austerity, it is understandable that the government would wish to contain expenditure on campaigns through corporate involvement however this needs to be balanced against the costs that a continued rise in obesity would deliver, and it would seem especially prudent for the Government to direct public health funding to strategies that are evidence based and considered to be the most effective and cost saving but this is difficult. If

finances are lacking then it is even more prudent than ever to focus on the low cost upstream interventions which will have the greatest impact. The economics burden of not doing this were outlined in chapter 2 and more recently in the Foresight report which has shown that without action there will be unsustainable demands on our health and social care systems; we either take action now or pay more later. To reiterate, the report noted that by 2050 60% of men and 50% of women could be clinically obese and without action, obesity-related diseases will cost an extra £45.5 billion per year; significantly more than the proposed £4 billion public health budget. There is no doubt that changes that may not be popular with all, and the outcomes won't be seen until another generation, but the leadership and stewardship role of the government is essential and the right social, political and economic arguments are needed to bring the public along. But whilst Governments continue to lack the political will, the short-termism of Governments policies is likely to prevail. Re-election after all is the ultimate goal and it is not in the Governments interests to genuinely do what is required; a point unofficially acknowledged by a leading civil servant at Royal College of Public Health, public health white paper consultation event on the 1st March 2011 who said that whilst the Government knows what they need to do, they don't know how to do it and get re-elected, that is, how to bring the public on board.

Finally, another issue that was apparent in the research finding was that of the high degree of segregation within the Bangladeshi community across both the first and second generation. The increasing levels of religious fundamentalism were commented on by both the community participants and the key informants. As has been described, this was found to be impacting on food and activity choices but also the ability to interact with the health community despite increased cultural awareness and competence amongst professional and other key players in the community and advocacy services being in place. This appeared to be a function of the community finding its place in a multicultural society which outwardly has different cultural norms and traditions. During the research there was a perception of some members of the community withdrawing further due to concerns for rising Islamophobia following the London bombings in July 2005. This reinforces the need to ensure that the implementation of public health measures consider the local conditions in which people live and are based on the participation of the target groups. The issue of segregated communities has been raised by Security minister Baroness Neville-Jones and the Prime Minister David Cameron stating that the Government needs to take a lead and encourage participation in society, including all minorities (BBC news 2011). It remains unclear how he will translate his words into action but in the meantime there is a risk of further alienating these communities, particularly predominantly Muslim communities such as those in Tower Hamlets.

9.1 Implications for food policy

The research finding has reinforced the current shift in public health theory and the need to take a multi-stranded approach working across sectors and at all levels. I will now turn to the implications for food policy specifically.

At the beginning of this research it was envisaged that I would undertake a quantitative study to identify what the food and activity choices were for two generations of British Bangladeshis and the implications of this for public health and food policy as well as professional practice. What became rapidly apparent however was that this approach would be wholly inadequate and there was little value in understanding 'what' choices were being made if I did not also understand 'why' and in what context these decisions were being made. Consequently, a shift was made and a qualitative, exploratory approach was taken which produced the finding which will enable conclusions to be drawn regarding their impact on food policy. Later in this conclusion I will reflect on the PhD process including the modification in the approach taken.

The in-depth exploration of the factors affecting food and activity choices across two generations of British Bangladeshis in Tower Hamlets has revealed a community being undermined by the food system within which they operate. Despite some positive dietary changes beginning to occur, the overwhelming perception is that diets now comprise the 'worst of both worlds'. Excess and over-indulgence are considered to be now embedded in current dietary patterns for both meals and snacks with the large portions and over consumption on a day-to-day basis, not only when entertaining family and guests. The changes being seen reflect the move to an urbanised, obesogenic environment and with varying degrees of acculturation to the British society. The coherence and relevance of the Bangladeshi food culture is being undermined as contemporary living which demands quicker, easier and more flexible meal solutions, particularly so due to the second generation women are becoming more educated and entering the workforce.

There has been a market failure in Tower Hamlets particularly in relation to the excess of cheap, energy-dense foods available in the plethora of fast-food outlets that saturate the environment and barrage consumers with easily accessible, affordable energy-dense food and drink as entertainment. An expanse of literature has shown that the consumption of these foods is a natural response in an obesogenic environment however we are endowed by an ancient physiology and are ill-equipped to deal with our modern food environment, an issue exacerbated when, as with this community, there has been only a relatively recent transition from one of food scarcity and over a relatively short period of time. There has been a government failure with an over-emphasis on individual programmes and the personalisation of public health which had begun to change over the course of this work with the implementation of the HWHL policy but is now again is regressing. Planning policy is not amendable to changes that readily enable a modification of the food retail landscape. And, there has been a consumer failure as well, as despite finding increased knowledge and awareness about the benefits of changing to more healthful diets and increasing physical activity there is ambivalence, all be it understandable, with taste, convenience and cost dominating the choices made. There is also a hostility seen against those with poor diets and benefits claimants, both of which are prevalent in this community, the implication being that deliberate lifestyle choices have been made. Increasingly again there is debate in the media regarding the worthiness of some to access healthcare if they have made these 'choices'. This is further complicated by the issues of poor English literacy as will be discussed further relating to the implications of the

findings for practice. Finally, there has been societal failure with the necessity to trade off family and personal care for unsociable and long working hours, and a breakdown of traditional family structures due to lack of housing. With the changing gender roles we are seeing households emerging with the absence of their traditional nutritional gatekeepers with the number of Bangladeshi women entering the workforce impacting on meal time structure and having implications for home prepared meals with a loss of cooking skill. In these households they are less ritualised and more experimental but often lack the food literacy to be able to make the best choices. The slower pace of eating, and the regularity of coming together as a family, is beginning to be marginalised with convenience dominating. So while many of the changes occurring are positive for the second generation, such as the increasing education and young women entering the workforce, the repercussions have been a clash with traditional and modern lifestyle and for some culinary chaos. This is not dissimilar to the changes that have occurred in modernising societies in the UK and across the world and the move away from dominant patriarchal structures.

There is a mismatch however between the current changes being made to public health policy and the necessary food policy framework to tackle the wide range of issues which have been outlined in this thesis. The framework needs take a system wide approach and span across the areas of acceptability, availability, access, affordability and advocacy.

Perceptions will need to be challenged so that healthier options can compete but as voiced by the key informants a variety of avenues will need to be used to disseminate this information so that it is interesting, timely and relevant. Local social marketing campaigns will have a place and can build upon the national campaigns such as Change4Life however as discussed, this is only one option and there is a need to avoid over-emphasising the potential for impact. For the first generation communication will need to focus on a shift back to the traditional diets seen in Bangladesh, with a higher proportion of fruit, vegetables, pulses and fish and away from the meat dominated choices that have evolved since migration to the UK. For the second generation, the focus will be on finding alternatives that can compete with the 'tasty' fast foods which dominate the preferences and increasing food literacy for the western foods they have begun to incorporate. For all members of the community, education is also required regarding portion sizes and frequency to reset the perception of what is appropriate. This should also include working with the food retailers to amend their serving sizes and possibly amending their local pricing policy to support more appropriate size choices. In order to achieve this it will be necessary to work with the community and be sensitive to cultural norms and traditions. Health professionals, such as dietitians who were recognised for there expertise but there is a need to also work across sectors, such as with the Imams who are an important route that are likely to have significant influence and reach a wide proportion of the community. Involvement of the third sector will also be a vital component of this work as they are very often the advocates for and gate keepers of the community. With their very existence being threatened however due to the wider structural changes in progress the opportunities for this will be eroded. And building a Big Society and the launch of a national volunteer scheme will not help in this regard, many communities do not have control of their lives and these issues are structural not individual.

Even if there is an increased acceptance of healthier options, to enable these choices to be made significant changes will be necessary to improve the availability of healthy food. The majority of the research participants agreed that there was currently limited availability and the current alternatives weren't attractive, for example a sandwich versus PFC. The food industry in Tower Hamlets is beginning to adapt to needs of community, such as increasing the availability of halal foods and imported Bangladeshi foods in the local markets and mainstream supermarkets which has led to some of the positive diet trends being seen in the first generation participants. The food service sector has also responded however by the proliferation of halal fast-food outlets. The use planning and regulation to control the food environment has begun in Tower Hamlets but has been difficult and there have been only small changes possible. Moving public health back into the local authority has the potential to strengthen cross policy relationships without wider government prioritisation this will remain extremely difficult, but one avenue will be working more closely with environmental health officers. With over half a million one-to-one inspections annually these can be seen as opportunities to add value to statutory work by linking with the public health agenda and having a conversation about the wider public health agenda. There may be value in brief interventions to suggest small but potentially high impact changes such as converting from palm oil to an unsaturated alternative. Until recently whilst many environmental health officers have been culturally interested in public health work they have been structurally disabled. Now these obstacles may start to be removed but they may remain hobbled due now to the local authority budget cuts and a regression back to statutory work only, so-called discretionary work being eliminated.

The public health responsibility deals which over-emphasise personal responsibility are also unlikely to assist with increasing the availability of healthier options and are instead likely to further fuel the 'blame culture' and perception of active lifestyle choices being made rather than as a consequence of life circumstances. Furthermore, they are also likely to be focused predominantly on the mainstream food system and thus have little impact on unique communities such as in Tower Hamlets. The calorie labels for example set to be implemented in large chains such as KFC and McDonalds are unlikely to have significant impact in communities such as this where the predominant outlets are smaller, more locally based and respond to the need for halal options, and will not have the resources available to implement such high cost initiatives. But regardless information for many is a battleground and not a solution. The diverse methods used for food labelling, such as the GDA versus traffic label system has resulted consumer confusion. FSA research, supported by this research showed consumers found the GDA scheme, launched by the industry as an alternative, hard to understand but despite this there has been unprecedented lobbying both in the UK and Europe. Once again, the most vulnerable will be excluded, widening the gap, with those with greater literacy skills and education able to make informed choice but those who are more vulnerable, including many members of this Bangladeshi community will have their choices muddied. Similarly, the interventions to improve the promotion of healthy food options in supermarkets will not reach the local cash and carry stores and 'corner shops' which are dominant in Tower Hamlets therefore local solutions will be require. The continued roll-out of the Change4Life

convenience stores initiative is one example or exploring the possibility of working upstream with the suppliers to the local take-away outlets to change some core ingredients to more healthful alternatives. The FSA had begun work to provide tailored advice on healthier provision for small and medium enterprises in 2010 however the potential to continue this role is likely to be limited with the changes imposed to the FSA by the Coalition Government.

Whilst cost did not dominate the choices being made in this community in relation to being able to afford fruit and vegetables, largely as a consequence of the food markets, the cheapness of the take-away foods did make them a logical option whether that be for a meal or a snack. When asked however, fiscal changes were almost universally opposed in relation to raising the cost of poorer options that is a 'fat tax', an option that would also be politically undesirable. Also as food taxation is a blunt instrument, in that it is likely to hit the poorest hardest, it would likely be seen to have a regressive impact. A greater proportion of their income is spent on food than people who are more affluent, thus they are more likely to be sensitive to price changes (Marshall T 2000). Changing the relative prices however between healthy and unhealthy options was considered feasible, potentially subsidising the healthier choices as has been supported most recently by the WHO as being very cost-effective, low cost and highly feasible (World Health Organisation 2011). This later option could be at an international level such as through changes to the CAP but locally as mentioned, individual outlets making changes to their menus and pricing strategies to support more healthy choices.

9.2 Implications for practice

This section will now focus on the implications for the professional practice of the dietitians and other health care professionals working in this community including their interactions with local actors in relation to the implementation of public health and food policy.

Dietetics has made advances through integrating and understanding biology and chemistry, but the more recent advances in knowledge in relation to genes and nano technology risk reductionism and industry take-over. This growing trend for personalised nutrition is most evident from the way in which food companies are 'reinventing' themselves by developing *functional* foods that claim to suit the individual dietary needs of consumers. This approach, as with consecutive governments' public health, treats food like medicine and goes hand in hand with a focus on 'wellness'. Personalised nutrition increases consumer demand for healthy foods and places the onus on individuals to make the 'correct' choices to improve their own health (Food Ethics Council 2005). Furthermore the nutrition advances tend to widen the inequality gap with new products not affordable to those with the greatest need but there is a high appeal to individuals, manufacturers, pharma and biotech industries. This thesis proposed that for nutrition related problems that manifest as medical such as the epidemic of obesity and Type 2 diabetes there is a need to understand the cultural dimension of choice; a long lasting view held in public health.

This research has reinforced that nutrition is socially mediated and that it is the shape of society and social relations that determines who eats what, who well or poorly. Judgements are made about why people make the choices they do and this is no less the case for this Bangladeshi community with some respondents both from the community itself and key informants holding the view to some degree that poor choices were made due to being ignorant poor and somehow less concerned than the more educated members of the community. As already discussed, a view that has re-emerged in conversations in this new age of austerity with the focus on personal responsibility. The majority however, and in particular the key informants, recognised that food choices were a far more complex issue. Dietitians understood the need to embed nutrition in socio-cultural realities and that this should be a central dimension of nutrition science however the difficulties of dealing with the cultural barriers within the community were also highlighted. There is a need to ensure that dietitians and other health professionals develop the cultural competency necessary to effectively work with the communities they are responsible for. This goes beyond an understanding of dietary trends to also incorporate the cultural dimensions and impact of the wider determinants that affect the health of their clients. The lead needs to be taken from the community regarding the planning and development of appropriate education services and key health messages. True multi-sector working and community engagement is necessary with the diversity of attitudes and practices being taken into consideration. By taking this more inclusive approach progress should be able to be made in relation to the issues revealed regarding fear of inadvertently offending certain members of the community and therefore important health messages potentially not being discussed. And, this is a heterogeneous community with substantial differences revealed between genders and generations therefore whilst there will be universal messages regarding diet and exercise, there also needs to be appropriately targeted messages for specific groups, as already mentioned, to address the wide range of influences and cultural diversity.

This benefit of multi-agency working with the community and third sector was recognised, with those who were already doing so finding it to be very positive for all members. This reinforces the literature in relation to food and obesity policy and the need for cooperation across the public, private and third sector with stakeholders being key to both the development and implementation of policies. The potential challenge of engaging with the third and voluntary sectors, coordinating the vast amount of untapped work was however recognised. And, despite the desire to embrace wider agency working, the efficiency and effectiveness of many community led projects was seen as questionable with governance with respect to ensuring competency and meaningful evaluation often limited. There were also significant operational ownership barriers to translating strategy into action with the developing strategies being heavily reliant on contribution of teams across partner and community organisations but who did not yet have obesity as their ‘day job’ or top priority. For the implementation of complex obesity preventions strategies a multi-agency programme based approach, working across policy silos, is particularly essential rather a series of small projects which lack adequate leadership and governance arrangements which were bemoaned in this research. Whilst some progress has started to be made with the publication of the HWHL obesity strategy in more recent years which provided a framework for implementation within the current structural changes there is a

risk with this style of working once again is becoming lost. The dismantling of the health system with the abolition of the PCTs, instigation of GP consortia and opening up health to competitition is likely to result in a fragmentation of services with questionable governance and moving public health to the local authority risks losing relationships with health and the integration of prevention into services. There is so far mixed consideration of the fact that Public Health specialists work across all dimensions on public health and that there is going to be a split into health protection dominated and healthcare public health. Considering GPs in particular have been highlighted as tacking this social problem with a medically based, personalised approach then there are considerable risks to GPs controlling commissioning of local services. Far more effective monitoring and evaluation of services, planned at the instigation of programmes is necessary to ensure we can further build the body of evidence to ensure that programmes are effective.

Moving to the more micro-level implications for professional practice the generational inequalities related to inadequate English fluency on the health literacy, particularly for the first generation women, were highlighted as issues. As discussed the major areas of concern particularly related to the ability to access information from a range of mediums and reliance on family rather than advocates in discussions with health professionals despite the later being against best practice. In relation to health messages, as with more generalised campaigns, health professionals will need to work with community leaders and the third sector to develop interventions targeted to the specific needs of this group, using methods and avenues that are most suitable to their needs such as interactive sessions at community centres and being less reliant on pamphlets. In relation to advocates, there is a need to ensure that there is adequate provision of resources where necessary and further education of health professionals to understand why, apart from in exceptional circumstances, the use of family members (or friends) as advocates / interpreters is not appropriate and can result in misinformation, inability to make informed choices and possible personal embarrassment. Furthermore, the reduction in funding to the NHS and loss of professional health staff likely to result in increased use of the third and voluntary sectors, such as Health Trainers. But whilst this isn't necessarily negative, there is a need to ensure adequate governance is in place with non-professional staff being provided with the necessary training, ensuring competency based standards are in place, and that adequate monitoring is undertaken to ensure all members of the community, regardless of literacy or language barriers, have access to high quality care/education, ensuring an equitable service for all. This includes the advocates and translators who need to the same governance structure in place to ensure that health information is correctly interpreted and any advice provided is within their limitations. There is a need to ensure there is not multiple and conflicting advice from those working with the community in addition to the significant challenges already faced from inadequate food labelling and the multitude of often contradicting and poorly balanced media messages. In conjunction with the provision of high quality advocacy services and an adequately trained third sector, enablers are also required for those members of the community with poor English fluency to gain basic English language skills and increase their ability to access a range of services, information and facilities. For example, the provision of crèche facilities for younger women with children to provide the space for learning or combining

education classes with English as a Second Language (ESL) courses in community centres for the first generation. In all circumstances, care needs to be taken to ensure that advocacy services are not simply rationalised in the drive to push integration and that the community is not blamed for not learning English without the support being in place to enable alternatives.

Looking at the diet and physical trends there are some key issues and recommendations for practice emerging from the findings. There is an uneven nutrition transition between the two generations, within generations and between genders. Changes to the diets of the first generation are largely as a consequence of urbanisation being, as revealed in previous studies, at there core still a traditional Bangladeshi diet but with exacerbation of feast foods from special occasions into everyday life together with an increase in portion sizes. The diets of the second generation are being acculturated to a more western, convenience based diet and converging towards a similar but limited mix of food groups with dietary diversity, or divergence, confined to wealthier and better educated groups within the community. This movement to a culture of convenience is a reflection of that seen in the wider population in the UK and internationally. Despite the accessibility of fruit and vegetables from a variety of sources the changes to traditional diets and the new food cultures emerging have generally revealed a tendency to have inferior nutritional intake. The nutrient poor, energy dense, profile being disproportionally dominant in similarly poor socio-economic groups.

The second generation have embraced new diets more readily than the first generation as seen in other migration studies, but in particular are embracing fast food more than older cohorts although this is not exclusive and there is a question of under reporting. The cultural and symbolic overvaluation of food appears to be declining among subsequent generations. Whilst many from the second generation have a revealed a mix of the traditional with the new; it was reported that younger siblings and friends were moving further away.

Generally, when comparing this Bangladeshi community to that of the UK community as a whole, whilst there may be similar overarching drivers impacting on food and activity patterns and trends, they have manifested themselves differently by being embedded within a different social cultures and norms. With changes occurring at different paces and being linked to the maintenance of traditions and customs, the varying interpretations of traditions and customs level and the degree of acculturation to British society. Whilst the Bangladeshi food culture remains strong and deep it is being eroded.

Some specific recommendations for practice include the need to promote:

- Diets based on frugality and dietary diversity; emphasising an increased intake of fruit and vegetables and an increase in lower glycaemic index carbohydrates.
- Diets based on health-promoting ritualistic and social conventions.
- Home cooking from food literate family members.
- Teaching cooking skills to those who require further support. The second and subsequent generations in particular, in light of changing social structures need to learn to cook quickly

producing simple meals (whatever their cultural influence), leaving complex and time intensive dishes for special occasions and reducing the reliance on take-away foods.

- A move back to eating simply as a norm and eat feasts as celebrations that is, exceptionally; especially for the first generation.
- A reduction in portion sizes back to what is appropriate for age, gender, physical activity levels and biological conditions such as pregnancy.
- More appropriate snacking – less often and nutrient rather than energy dense.
- Eating seasonally where possible to reduce the cost and improve the flavour of produce with the assistance of food cooperatives and convenience stores as part of the education via brief interventions
- Eating according the proximity principle, supporting local suppliers where possible and building on the enthusiasm for community gardens; the later being beneficial for not only nutritional but physical and mental health.
- Consumption of water over soft drinks.
- Eating no more than the energy being expended and building exercise into their daily life.
- The importance of physical activity for all members of the community in ways that helps to reduce the perceived stigma attached for women choosing to follow a more traditional lifestyle.
- Positive parenting services to support families and develop the parenting skills required to cope with the pressure of their children's demands and the wide range of powerful external influences such as the prevalence of take-ways shops; advertising and peer influence.

On the issue of the use of alternative therapies, such as black seed oil, there also needs to be an open dialogue with the community and their gatekeepers. Whilst we need to ensure cultural sensitivity to their perceived benefits, it is also the responsibility of professionals to be aware of the potential implications and ensure that members of the community are able to make informed choices, especially where there use may impact on medical treatment such as hypoglycaemic agents.

At the same time as promoting specific interventions we need to harness the increasing in awareness and understanding of the benefits of eating healthy food as a basis for a healthy diet and regular physical activity across the community. In conjunction with members of the community and the range of actors working within the community, we need to continue to promote the implementation of positive behaviour changes in interesting and culturally appropriate ways, and targeted in ways to reflect the heterogeneous make-up of the community. As well as acting as advocates for the community in order to influence the public health strategies and food policy which impacts on the wider determinants of why and how they choose what to eat.

9.3 Summary

From this research it is evident that we in health generally, whether it be public health, primary care, secondary or tertiary care, are constantly picking up on the consequences of the decisions

being made elsewhere in society through a range of policy decisions often made in isolation, based on short term goals, and a result of ideologically rather than evidence driven strategies.

This research has confirmed the long lasting theory in Public Health that the social dimensions of health need to be addressed in conjunction with biological determinants, revealing the complex web of interactions which weave together to influence the choices being made in this community and highlight the interconnectedness of diet and culture and the relationship to a culture in transition. There are multiple rather than single drivers affecting the choices people make between generations, within generations and between genders and further affected by urbanisation, and the degree to which people are maintaining traditional cultures or becoming acculturated into British society. Through the lived experiences of the first and second generation Bangladeshi participants and the key informants, the research has further revealed how they interpret their world through eating. The relationship between the built environment, the physiological world, the social world of human interactions and the consumers' world has been demonstrated. The national obesity policy framework yielded following the completion of this research and after many years of academic analysis and policy cacophony had begun to provide the necessary leadership and budget to begin addressing the increasing economic, social and personal burden of obesity and its related diseases as seen within this community. Despite this overwhelming evidence that the obesity epidemic cannot be dealt with by promoting personal behaviour change and individualised treatment alone, and the cost-effectiveness of providing upstream solutions which is even more urgent in times of economic austerity, this developing framework is now at risk. There are the combined threats of the dismantling of the NHS, an uncertain future for public health despite the seeming priority it is being given and major changes to the welfare system and education as a result of a more forceful retreat back into the ideology of personal responsibility and abdication of state responsibility for the most vulnerable members of our society. In areas such as Tower Hamlets where those such as in the Bangladeshi community already represent some of the most deprived in the UK, the potential impact could be devastating and only serve to exacerbate the wider determinants which are already negatively impacting on their food and activity choices and the consequent rising levels of obesity and nutrition-related non-communicable diseases such as diabetes.

9.4 Reflections on the doctoral process

The research methodology chapter has previously set out the importance of providing thick description of the qualitative research process in order to help validate potential findings. The purpose of this section is to reflect on the doctoral process and epistemological changes made, together with some of the key issues arising and possible areas that would have been done differently. As such, some of my personal views about the process will be expressed.

The initial proposal for the thesis was developed in 2004 with the aim of developing and evaluating a package of instruments to a) assess factors affecting food choices, and b) determine eating patterns, in British Bangladeshi's, specifically with relevance to the development of Type 2 diabetes. By being able to more accurately measure both the factors

affecting food choice and the eating patterns in these communities it was thought it would enable more targeted public health advice and the design effective dietary interventions. The impetus for undertaking the research was embedded in professional experience within clinical practice where ever increasing numbers of people with Type 2 diabetes were being seen and at younger and younger ages despite this being a largely preventable disease. This was particularly evident in the Bangladeshi population where, as with other deprived communities and minority ethnic groups residing in the 'affluent west', suffer disproportionally from Type 2 diabetes.

Whilst the general aim of the research has not changed, the methodology was significantly altered through the influence of the literature and gaining a greater understanding of the complex interactions that impact on choice, and meetings and interviews with key stakeholders including academics, those working with the Bangladeshi community and lay members of the Bangladeshi community. The methodology changed from being largely quantitative and concerned with 'what' members of the Bangladeshi community in Tower Hamlets were eating and their activity patterns to a qualitative approach where the complex questions of 'how' and 'why' the choices are being made and with what effects, together with revealing the trends emerging in diet and physical activity patterns. The thesis moved from an individualistic nutrition science approach to consider the broader social, political, and economic conditions underpinning the rising prevalence of obesity and Type 2 diabetes in the UK Bangladeshi population, drawing instead upon the disciplines of social science and public health nutrition. By moving the research past the traditional, medically orientated, boundaries of nutrition science, the sociological perspective enabled the development of knowledge from the lived experiences of the community itself that can enhance public health by addressing the wider determinants of their nutrition-related health problems. The approach to this research was best suited to the particular circumstance in question, while recognising that public health policies require a societal agenda. Losing sight of the impact of the material or psychosocial impacts would have resulted in simply following the reductionist individual approach that can lead to 'blaming the victim' which we continue to see in the media both at the time of the research and now. This was therefore a deliberate effort to avoid the biologically reductionist view of nutrition, rather pursing an understanding of nutrition as it is located within social processes, and the physical environment. As discussed, this research has reaffirmed that social dimensions of health need to be addressed in conjunction with biological determinants in order to reveal the complex web of interactions which weave together to influence the choices. Taking an individualistic approach would not have enabled the interconnectedness of diet and culture and the relationship to a culture in transition to be explored.

This research serves as a reminder to how health professionals including dietitians, researchers and policy makers need to consider anthropological and social science based advice in order to work within a multi-cultural environment. The public health world is sympathetic to this approach, however personal experience has revealed that this is an approach that has come more slowly to many health professionals with for example the focus being on the

understanding of what the cultural differences are with respect to food and activity choices rather than why the choices are being made and in what context.

By wanting to understand the complexity of the food and activity choices being made within this community, and to explore a culture within a culture there were however enormous methodological difficulties; difficulties which health professionals have to grapple with day-to-day. The collection of qualitative cross-cultural data provides unique logistical and analytic challenges so together with a review of the literature advice was taken from lay community members, community workers and academics. This is a summary of the concerns and approach taken however full details are outlined in the methodology section. The purpose of the following is to reflect on the research process and the main difficulties which needed to be considered and arose during the research. As many members of this community either have no or limited English literacy there was a need to use translators. Furthermore, whilst many members of the community spoke Bengali some, and in particular the first generation women, spoke only Sylheti; a spoken language. Consequently the researchers employed to assist with this study needed to be fluent in English, Bengali and Sylheti. And, even though the research assistants employed had the same ethnic background as the participants there were concerns that issues may arise due to being culturally different as a result of differing socioeconomic status and immigration history and therefore consideration needed to be given to whether lay members of the community should be employed to participate as research assistants or whether facilitators who were trained in qualitative research methods should be used. Another issue that was thrown up was that of the white researcher and the black researched; the concerns about this potentially racialised power relationship and the how this may affect the research. The multinational and cultural differences therefore made bringing together a both a linguistically and culturally competent team a challenge. Data analysis in cross-cultural research further emphasised advantages and disadvantages of having 'insiders' (members of the studied ethnic group) as coders versus outsiders. To help overcome the issue of not having an 'insider' involved in the coding and analysis of the interview transcripts in this study the facilitators maintained field notes of each interview plus I had discussions with the facilitators at intervals throughout the course of the interviews. There were also the increased costs associated with undertaking the cross-cultural research which for this study meant that I was unable to undertake the research on a full-time basis, rather having to use some of the research funds to employ facilitators. It is for these reasons that some ethnic groups may be understudied with many researchers, pragmatically relying on English speaking participants for reasons of both ease and cost.

Despite a great deal of consideration, time and effort being given to the research methodology there were some key issues that arose. Firstly, regardless of reading the literature and taking the advice of experienced academics, the lack of experience in undertaking qualitative research is reflected in the large number of depth interviews eventually undertaken and the under-estimation of the time required to transcribe and analyse such a large volume of information. The large number of interviews was in part a reflection of a change during the research to widen the range of key informants interviewed in an effort to more completely reflect the multi-level

governance of public health in the UK. Because of this however there were delays in the original timeline for completing the interviews and the analysis.

Reflecting on the different types of interviews undertaken there were differences issues arising between those undertaken with the community participants and those with the key informants. Starting with the community interviews, the most difficult aspect was the recruitment of the participants despite liaising closely with Social Action for Health (SAfH), who as noted have strong links within the community and to some extent acted as gatekeepers. In reality however, despite the organisation originally agreeing to assist with recruiting the participants, the facilitators found they had to broaden their scope by building new relationships with a diverse range of community groups and linking with institutions such as mosques for a wider pool of participants.

SAfH were previously good source of participants for interview projects for Nania Ilm Studio (NIS), but staff changes in interim period led to reduced communication. Example includes delayed responses to emails/phone messages (sometimes no response at all) from staff. Due to voluntary nature of participation, there were difficulties in conducting interviews where people had initially agreed to take part and then were evasive with availability. They were usually pursued for three phone calls and then dropped as potential participants. Furthermore, subjects sometimes 'missed' appointments or called to cancel at the last moment. This was consistent phenomenon throughout, leading to a protracted process. In most cases the interviews were re-arranged, in some instances the participant admitted to changing their mind. In relation to the exclusion criteria, in one instance an interview was terminated when the participant revealed she had diabetes. The participant stated when being recruited that she did not have diabetes because her diabetes was well controlled with medication and therefore felt able to identify herself as not diabetic. A spate of interviews were conducted in January/February/March 2007 but then there was a lengthy gap of two or three months. Another issue which had a major impact on the research timetable was the fact that due to unforeseen circumstances, some of these interviews conducted in early 2007 were not able to be transcribed till June/July/August. There were large gaps in communication between myself and the facilitator/s during this period and at one stage it was thought that alternative facilitators would need to be sought which would have been extremely undesirable. Even if there were circumstances beyond the control of the facilitator involved, this could have been communicated more appropriately so that more informed and timely decisions could have been made. This was to a degree an issue with the strength of the contract in place with the company and a lesson to be learnt regarding commissioning of services and project management. Eventually all of the interviews were completed, including for the multiple pass dietary recall however the delay in the completion of the field work and thus the analysis resulted in the thesis not being completed in the originally planned time. Having to commence back into full time employment in 2008 has led to further significant delays in completing the thesis due to the considerable pressure of the position held.

At the early stages of the field work, there were methodological issues about signing too many documents for the participants but this was resolved with an amalgamation of the originally two

consent documents into one. With respect to the questions themselves for the community interviews, some of the questions posed a degree of difficulty for the first generation women. In part possibly due to not being used to thinking about their food choices in the detail that the questionnaire presupposed and many of the potential probes for reasons behind making choices were irrelevant. Their diets were relatively traditional and in that sense limited, so their choices were limited too. The facilitator didn't feel that the first generation women necessarily saw the link between the questions about food choices and diabetes. This was however a finding rather than an issue.

Looking at the different groups of interviews specifically, for the female participants, the female Bangladeshi facilitator began the recruitment through community and children's centres although lack of responsiveness from staff was a significant barrier with queries of how this would benefit the centre, that is, *why should they assist*; staff not replying to messages and regular staff changes. Ultimately some of the centres allowed access to groups and classes for the facilitators to approach potential participants directly; other centres were existing contacts and were more helpful in providing access. Younger women were drawn from the most varied sources; from a community centre, a mosque and one was opportunistically approached through existing contacts. Unfortunately the interviewees suggested by one of the community centres were not very communicative despite agreeing to participate.

For the male participants, the main difficulty was with recruiting the second generation males and they were also more likely to be less engaged during the interviews. The SAfH contact admitted difficulty in getting participants, due to their own role as part-time staffer and participants being generally unwilling. There was also a perceived issue of Islamophobia, especially after the London bombings in July 2007 which was felt to be impacting recruitment with some concern that participants may have felt vulnerable and possibly were more guarded in their responses, especially in relation to questions relating to topics such as welfare benefits and education. The male facilitator noted that during the early months of interview process, many of the participants approached directly by NIS or its community contacts proved wary of recorded interviews. Sample opinions suggested a general wariness against a backdrop of national media coverage of wider events, for example, adverse reportage of Muslims.

Turning to the Multiple Pass Dietary Recall, for the female participants this was very difficult for the facilitator and felt a little intrusive. The way this type of questionnaire was structured made it more difficult – asking them to list what they ate, then revisiting with times, amounts, plate sizes etcetera and going through a prompt list. The women appeared to be happy enough just listing the foods, but having to detail amounts and times quite specifically was not easy at the best of times and annoying for them at worst. The facilitator found this process to be very hard work and felt that methodologically this was the most inappropriate for this cohort with too much work being required on their part, and the feeling that the structuring of the questionnaire could well have been redesigned to be more user-friendly. When the individuals agreed to discuss the foods they had eaten, they didn't anticipate the depth of enquiry and repetitiveness of the questionnaire, so whilst most were amicable at point of first call, by the end of the call and follow

up calls, rather than the familiarity of having experienced the MPR process making it easier, the convoluted nature of the questionnaire made the calls less friendly. This was unfortunate as, as discussed in the methodology chapter, the Multiple Pass Recall was chosen due to the relatively low respondent burden compared to other dietary assessment methods, the ability to be administered via telephone and the improved precision compared to a standard 24 hour recall. In contrast to the experience of the female facilitator however the male facilitator conducted and completed the MPR process in a relatively short period of time and with ease. The facilitator commented that the excellent rapport he had built with participants during the interview process undoubtedly helped. The participants proved willing and were enthusiastic about inviting interviewer into their homes again. The facilitator discerned a sense of pride and valuable contribution on the part of respondents. Unlike the main body of the research methodology, the decision to use MPR was largely based on academic literature and there was significantly less involvement from members of the community or community representatives. The issues that arose with using this method therefore may have been able to have been avoided if an alternative approach was taken. Also, as I am a Dietitian by profession I and have conducted dietary histories on a regular basis over a number of years it is likely that undertaking a similar approach would not to me have seemed challenging. However, as the process was only an issue for the first generation women and alternative methods are also in different ways burdensome and/or intrusive, this may have been to a degree unavoidable considering the level of detail required. The difficulties may have been as a consequence of the relationship the facilitator had been able to develop with the participants and the amount of information provided. Possibly, if the process had been explained more fully then the level of detail required should not have been unexpected. There are lessons to be learnt regarding the training of the facilitators in all aspects of the fieldwork and avoiding assumptions based on personal experience.

For the key informant interviews, the Bangladeshi facilitators recruited the Imams for which they did not have any significant difficulties, the Imams (male and female) being engaged with the topic and interested in how they can assist in improving the health of members of their community. The remainder of the key informants were recruited by myself and the majority approached were interested in participating or in a few circumstances were able to suggest a more appropriate person. Of the twenty three people invited to participate only five declined by way of non-response. One person who initially declined, due to being due to retire from their post, later agreed following assistance from one of my supervisors. Interestingly those who did not respond were professionals who worked in areas closely related to the research topic, being two people from public health in Tower Hamlets representing different levels in the organisation; the chair of the British Dietetic Association Multicultural Nutrition Interest group, one of the community organisations in Tower Hamlets involved in food growing and one GP.

Despite the difficulties of undertaking cross-cultural research it has enabled a better understanding of the food choices and physical activity patterns of this Bangladeshi community which previously have tended to focus on those with diagnosed diabetes and mostly from the

first generation. The wide range of studies looking into the lifestyle related risk factors that are amendable to public health prevention strategies previously have largely focused on individual dietary changes and orientated towards personalised policy, with few links to the culture of food and eating or to the political or economic structure of food production and marketing. The originality of this thesis has been to critically examine the characteristics between two generations of British Bangladeshis through in-depth and rigorously described qualitative data.

This thesis confirms the value of socio-cultural research as part of Public Health theory and food policy. The in-depth and rigorous way in which the data has been collected and described however is distinctive. The qualitative and illustrative approach, as apposed to the previously largely quantitative findings in the literature, provides gravitas by moving past the 'what' into the 'why' and 'how' food and activity choices are being made in this community. Taking a sociological perspective has revealed the more subtle changes in cultural transition and consumption patterns, and enabled the development of knowledge that will enhance public health policy by addressing the wider determinants of nutrition related ill-health, and has enabled the researcher to tease out a broader awareness of more subtle drivers that collectively meet to influence the nutrition and cultural transitions taking place within the first and second generation Bangladeshi community in Tower Hamlets.

The findings of this research add strength to the need for a more holistic approach, emphasising that this issue is not about the provision of information and more education but societal changes and addressing the wider determinants of health.

9.5 Suggestions for further work and future research

The research in this thesis has led to some useful results and conclusions however as with all research further areas for additional work and study are illuminated. Possible future work and research approaches relate to the impact of emerging public health policy changes at a national level and the implications for deprived communities such as those in Tower Hamlets, as well areas relating to professional practice for those working in obesity related fields.

The emerging structural changes to the NHS, the welfare system and education have the potential to have substantial effects on the most vulnerable and disenfranchised members of our community and the repercussions for public health could be significant. In areas such as Tower Hamlets which already experiences the burden of poor educational attainment, high unemployment, overcrowded housing, disproportional levels of poor health such as Type 2 diabetes and for some segments of the community increasing segregation from the wider community in which they live, we may begin to see a reverse in the positive health behaviours and outcomes which were beginning to be seen over recent years following the implementation of the Choosing Health White paper and more recently the HWHL national obesity strategy. It will therefore be essential to conduct research into the effects of the changes across society and the ongoing implications for policy. What for example will the implication be for the sustainability

of the obesity strategies put in place locally and the move back to an increasingly personalised public health agenda and the further abdication of the role of the state?

The changes to public health and the move into the Local Authority (if passed) has the potential for greater cross-sector working with the new Health and Wellbeing Boards responsible for developing the local health and wellbeing strategies. What however will be the impact if there is fragmentation of the public health workforce, ultimately getting split into healthcare public health and health protection? If it is not made a statutory requirement for a representative of the GP consortium to be on the health and wellbeing board and participate in the Joint Strategic Needs Assessment, what will the impact be for public health prevention strategies within the NHS and especially areas such as obesity which already continue to be neglected in favour of the treatment of secondary conditions? Further research could also be conducted to determine the effectiveness of the potentially greater collaboration between sectors such as adult health and wellbeing; children's services; housing; transport and education.

Due to the escalating number of take-away outlets, as lamented in this research, local authorities in conjunction with public health are beginning to use existing planning powers all be they limited, to control the location and prevalence of take-away outlets in a number of areas including in Tower Hamlets. The effects of these interventions need to be monitored and evaluated with respect to potential improvements in health outcomes such as obesity levels, and further qualitative research undertaken regarding of the acceptance of the changes by members of the community to help inform ongoing strategies and ensure they feel empowered and not disengaged with the changes due to a perceptions of the imposition of the 'nanny state'.

There is the opportunity for environmental health officers to move beyond their enforcement role and reclaim their public health responsibilities such as undertaking brief interventions at their annual inspection visits. As Tower Hamlets in recent years has already introduced a healthy food award, collaboration between Public Health and the Environmental Health Officers, this could be an extension of the scheme. Research into the impact of such interventions would be required. What would be the impact of a brief intervention be compared to upstream changes to the products supplied to the food retail outlets?

Tower Hamlets needs to develop a comprehensive food strategy in conjunction with their obesity strategy in order to begin to tackle the issues of poor quality foods served by the local take-away outlets. Schemes need to be developed to support small and medium enterprises to improve their labelling and portion sizes in line with national strategies and in ways that are appropriate for the community.

Due to the high level of churn in Tower Hamlets, there is a need to continue to explore the impact of the demographic changes. In the Bangladeshi community, what is the impact of more migrants coming from Dhaka and the increasing number of third and fourth generation households on diet and activity patterns and the prevalence of obesity and related diseases?

In relation to professional practice, competency based training is required for all actors working with the community to ensure consistency in the health messages being provided and sign posting to services if required. The training needs to include an element to improve cultural competency to ensure key issues are not being sidelined. Research needs to be conducted into the impact of the training programmes in order to identify strengths and weaknesses and make improvements to ultimately ensure a high quality service is provided to everybody regardless of ethnicity or any language and literacy barriers.

There needs to be ongoing support and development of programmes for individuals, families and their children to provide the knowledge and skills such as improving food literacy and cooking quick and healthy foods. These programmes need to be developed in conjunction with the local community and have comprehensive evaluation framework in place.

As described in the Marmot report, emphasis needs to be given to interventions in early year's settings and for children in order to establish the positive health behaviours, including taste preferences, which this research has shown are more difficult to achieve once patterns have been established.

So finally, this thesis has performed a number of different functions:

- It has contributed to current academic body of knowledge through adding to the richness of the information relating to the factors influencing the food and activity choices of two generations of British Bangladeshi's.
- It has reinforced long held belief in public health theory that a multilevel, multisector approach is necessary in order to achieve the seismic shift required to turn the tide of the rising levels of obesity and Type 2 diabetes. There are multiple rather than single drivers affecting the choices people make between generations, within generations and between genders and further affected by urbanisation, and the degree to which people are maintaining traditional cultures or becoming acculturated into British society.
- It has helped inform the policy context with respect to the specific issues relating to this community and delineated this from national strategies which due to the uniqueness of some of the issues within this community are unlikely to have a significant impact.
- Finally, it has provided a foundation of knowledge for other ongoing research within this community; in the wider field of migrant studies and in relation to the ongoing impact of Government driven changes to national public health strategies' encompassing food and obesity polices.

Section D Appendicies

Appendix 1 Cover letter to ELC3 re: requested revisions to ethics application





Department of Health Management and Food Policy
Institute of Health Sciences
City University
Northampton Square
Goswell Place
London, EC1V 0HB
T: 020 7040 8943
E: L.T.Vaughan@city.ac.uk
28th September 2005

East London and the City Committee 3 (ELC3)
Aneurin Bevan House
81 Commercial Road
Whitechapel
London, E1 1RD

Dear Dr David Ingram,

Re: Ethics Application for Lisa Vaughan, REC Ref: 05/Q0605/152
Short title: Determinants of Food Choice: British Bangladeshis

Thank you for your letter summarising the outcome of the review of my application. As per your request, the following information is enclosed in order to enable the final ethical opinion:

a. An interview topic guide for the Multiple Pass Recall telephone interview. I have also enclosed a copy of the photo cards which may be used as a prompt by the interviewer when estimating portion sizes. The photo cards will be provided in colour for the participants.
b. The amended Participant Information Sheets, which now include a sentence indicating the fate of the audiotape used to record the interviews. The changes are in *italic and underlined.*

Revised version numbers and dates have been added.

I understand that the Committee's final opinion has been delegated to the chair and I look forward to hearing of the final outcome.
Yours sincerely,

Lisa Vaughan
PhD Research Fellow / Specialist Diabetes Dietitian

Appendix 2 Data Protection Act personal details registration form

Data Protection Act: registration of all computer & paper record systems holding personal information (A separate form *must* be completed for every occurrence of personal data held)

Lead Researcher	Lisa Vaughan		
Directorate	Metabolic Medicine		
Department/section	Nutrition and Dietetics		
1. Name of study	Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.	**1a. R&D ref. no (if known)**	
		1b. Ethics ref. (if known)	
2. Type (electronic/manual/both)	Both	**2a. Name and version of database software used**	NVivo 2.0
3. Location of data	Department of Health Management & Food Policy, City University	**3a. Archive Media**	Audio recordings
4. Date of first record	October 2005	**4a. (Estimated) date of end of study**	30th November 2007

5. SOURCE OF DATA (Select all required)	☐ Patient health records / PAS	☐ Staff record / MAPS
	☐ Directly from patients	☒ Directly from staff
	☒ Other – please state:	Healthy volunteers - lay members of the community and key informants (those representative of the comminity and professionals).

6. TYPE OF DATA (Select all required)	GENERAL PERSONAL DATA:	SENSITIVE PERSONAL DATA:
	☒ Personal details	☒ Racial or ethnic origin
	☒ Family, lifestyle and social circumstances	☐ Political opinions
	☒ Education and training details	☒ Religious or other beliefs of a similar nature
	☒ Employment details	☐ Trade Union membership
	☒ Financial details	☐ Physical or mental health or condition
	☐ Goods or services provided	☐ Sexual life
		☐ Offences (inc. alleged offences)
		☐ Criminal proceedings, outcomes and sentences
	☐ Other – please state:	
7. PURPOSE OF DATA COLLECTION	Research	

8. Data disclosure	☒ To staff and depts within BLT and the School of Medicine & Dentistry
	☒ To other individuals/ organisations **within** the European Economic Area (inc. research sponsors)
	☐ To other individuals/ organisations **outside** the European Economic Area (inc. research sponsors)
	☐ There is a confidentiality agreement in place with Outside Bodies (inc. research sponsors)

9. I have read and will abide by the Trust Data Protection Policy in keeping these records.

SIGNATURE		**Date**	12th August 2005
Name	Lisa Vaughan		
Job title	PhD Research Fellow / Specialist Diabetes Dietitian		
Email address	l.t.vaughan@city.ac.uk	**Tel. no.**	020 7040 8943

10. APPROVED BY: The Barts and the London Information Security Manager or other designated Manager:

SIGNATURE		**REF. NO.**	

FORM DPA® – REGISTRATION OF THE USE OF PERSONAL DATA FOR RESEARCH PURPOSES.

Appendix 3 **Letter to ProVice Chancellor for research re: notification of NHS ethic approval**





Department of Health Management and Food Policy
City University
Northampton Square
Goswell Place
London, EC1V 0HB

25th October 2005

Julius Weinberg
ProVice Chancellor for Research
Chairman of the Senate Research Ethics Committee
City University

Dear Professor Weinberg,

Please find enclosed, as requested, a copy of my ethical approval letter from the East London & The City HA Local Research Ethics Committee 3.
I have also enclosed relevant documentation for your records.

Kind regards,

Lisa Vaughan
PhD Research Fellow / Specialist Diabetes Dietitian

Cc. Dr. Naomi Hammond
Graduate Education Coordinator
Secretary to Senate Research Degrees & Research Ethics Committees

Appendix 4 Cover letter to ELC3 re: notice of substantial amendments

Department of Health Management and Food Policy
Institute of Health Sciences
City University
5th Floor Tait Building
Northampton Square
London, EC1V 0HB
T: 020 7040 8943
E: L.T.Vaughan@city.ac.uk

10th January 2007

East London and the City Committee 3 (ELC3)
3rd Floor Aneurin Bevan House
81 Commercial Road
Whitechapel
London, E1 1RD

Dear Dr David Ingram,

Re: Notice of Substantial Amendment
REC Ref: 05/Q0605/152
Short title: Determinants of Food Choice: British Bangladeshis

Please find enclosed my notice for the substantial amendment of my key informant interview topic guide.

Enclosed forms as requested:
Key Informant Interview Topic Guide. Version 1.0, 11/08/05
Key Informant Interview Topic Guide. Version 2.0, 5/1/07
Key Informant Interview Topic Guide. Version 2.1- Policy, 8/1/07

I look forward to hearing the outcome of this review.
Yours sincerely,

Lisa Vaughan
PhD Research Fellow / Specialist Diabetes Dietitian

Appendix 5 Pilot Paired-Interview Observation Guide

Pilot Paired-Interview Observation Guide

Project: *Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.*

Facilitator: …… Observer: ……
Date: …….. Venue: …….

Reason for observation: to provide additional data, with respect to the interview process and questions asked, to assist with analysis of the pilot of the interview schedule.

Aspects to observe:

- Is the purpose of the interview clear (in relation to the project goals versus the pilot of the interview schedule)?
- Are the participants able to tell their story?
- Are the questions/comments easily understood?
- Are the participants able to express their opinions / emotions in a non-threatening manner?
- Are there particular techniques that the facilitator uses that result in positive interaction?
- Questions / language that resulted in lack of understanding / confusion?
- Questions that appeared to cause offense?
- Particular questions/topics that stimulated responses / discussion?
- Particular questions/topics that stimulated little or no response?

Behaviour during the interview:

- Subdued or enthusiastic? Loud or quiet? What are the participants doing?
- Are the participants interested, involved?
- Lots of participation in the interview or a little?
- Body language, either positive or negative, attached to a particular line of enquiry?
- What non-verbal cues are the participants giving (fidgeting, slouching, eye contact, daydreaming, smiling etc.)?

Observations should be accompanied by examples where possible (refer to topic guide as required).

Appendix 6 Guide for note taking and transcription of interviews

Barts and The London NHS
NHS Trust

City University London

Guide for note taking and transcription of interviews

Project: *Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.*

Interview notes:
Notes from the interview to be used to identify speakers or to recall comments that are garbled or unclear on the tape.
Notes should also be used to make comments about the behaviour of the interview participant e.g.

- Subdued or enthusiastic?
- Is the participants interested, involved?
- Body language, either positive or negative, attached to a particular line of enquiry?
- What non-verbal cues is the participant giving (fidgeting, slouching, eye contact, daydreaming, smiling etc.)?

Transcription of the raw data to include:

- The transcript should be an exact reproduction of the interview. Generate word-for-word quotations of the participant's responses.
- Keep word forms, the form of commentaries, and the use of punctuation as close as possible to the speech presentation and consistent with what is typically acceptable in written text.
- Preserve the naturalness of the transcript structure. Keep the text clearly structured by speech markers (i.e., like printed versions of plays or movie scripts)
- To include the interviewer's descriptions of participant's characteristics, enthusiasm, body language, and overall mood during the interview.
- Background noises, interruptions, and silences to be recorded.

Format:
Subheaders, identifiers, question numbers
Always make spelling, spacing etc., of repeating speaker identifiers, question headers, section headers, topic headers, absolutely uniform throughout text, not for example an inconsistent mixture of both.
e.g.
QU1:
OR
Q1:

Use a clear speaker identifier preferably in UPPER CASE.
Save in word format.

Appendix 7 Consent forms

Barts and The London NHS
NHS Trust

CITY City University London

INFORMED CONSENT FORM FOR PROJECT PARTICIPANTS

Pilot Interviews

Title of Project: Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.

Name of Researcher:

……..

Please initial or tick the box to give your answer

1. I confirm that I have had the project explained to me and have read and understand the information sheet dated …….. ……. (version ……..) for the above study and have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason ☐

3. I understand that agreeing to take part in the research means that I am willing to: ☐
   - Be interviewed by the researcher
   - Allow the researcher to take notes during the interview
   - Answer the questions and discuss my views on the topics as required
   - Make myself available for a further interview should that be required
   - Allow the interview to be recorded

4. I understand that there will be an observer present during the interview who will be taking notes throughout the session. ☐

5. I agree to take part in the above research project ☐

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Name of researcher / Person taking consent *	Date	Signature
_____	_____	_____
Name of witness (If verbal consent is being given)	Date	Signature

** Please delete as appropriate*

Barts and The London NHS
NHS Trust

City University London

INFORMED CONSENT FORM FOR PROJECT PARTICIPANTS

FOR AUDIO RECORDING OF INTERVIEWS

Title of Project: Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.

Name of Researcher:

…….

Please initial box or tick the box to give your answer

1. I confirm that I *have / have not** agreed for the interview to be audio recorded as part of the above study. ☐

2. I confirm that I have had the project explained to me and have read and understand the information sheet dated …….. ……. (version …….) for the above study and have had the opportunity to ask questions. ☐

3. I confirm that I am aware that
   - I can ask for any sensitive material to be removed from the record
   - I can ask for tape-recording to be suspended at any point during the interview
   - I can ask for the interview to be terminated at any point ☐

Name of participant	Date	Signature
Name of researcher / Person taking consent *	Date	Signature
Name of witness (If verbal consent is being given)	Date	Signature

** Please delete as appropriate*

Barts and The London NHS
NHS Trust

City University London

INFORMED CONSENT FORM FOR PROJECT PARTICIPANTS

Title of Project: Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.

Name of Researcher:
……

Please initial or tick the box to give your answer

1. I confirm that I have had the project explained to me and have read and understand the information sheet dated …….. ……. (version ……..) for the above study and have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason ☐

1. I understand that agreeing to take part in the research means that I am willing to: ☐
   - Be interviewed by the researcher
   - Allow the researcher to take notes during the interview
   - Answer the questions and discuss my views on the topics as required
   - Make myself available for a further interview should that be required

4. I confirm that I am aware that ☐
   - I can ask for any sensitive material to be removed from the record
   - I can ask for tape-recording to be suspended at any point during the interview
   - I can ask for the interview to be terminated at any point

5. I agree to take part in the above research project ☐

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Name of researcher / Person taking consent *	Date	Signature
_____	_____	_____
Name of witness (If verbal consent is being given)	Date	Signature

** Please delete as appropriate*

Barts and The London NHS
NHS Trust

City University London

INFORMED CONSENT FORM FOR PROJECT PARTICPANTS

FOR MULTI PASS DIETARY RECALL

Title of Project: Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.

Name of Researcher:
…….

Please initial or tick the box to give your answer

1. I confirm that I have agreed to participate in 3 phone interviews where I will discuss the food and drink consumed in the previous 24 hours. ☐

2. I confirm that I have had the project explained to me and have read and understand the information sheet dated …….. ……. (version …….) for the above study and have had the opportunity to ask questions. ☐

3. I understand that I have the right to ☐
   - withhold consent for participating in the telephone interviews
   - stop participating in the phone interviews at any time

_____	_____	_____
Name of participant.	Date	Signature
_____	_____	_____
Name of researcher / Person taking consent *	Date	Signature
_____	_____	_____
Name of witness (If verbal consent is being given)	Date	Signature

** Please delete as appropriate*

Appendix 8 Introductory letter for key informants

Department of Health Management and Food Policy
City University
5th Floor Tait Building
Northampton Square
London, EC1V 0HB

……

Dear ……..

Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.

A study is being undertaken to determine what different generations of British Bangladeshis living in Tower Hamlets East London see as the main factors influencing their food choices, and investigate the trend in eating patterns between generations of British Bangladeshis, specifically with relevance to the development (and prevention) of type 2 diabetes. This research is being funded as a PhD Fellowship by Barts and The London NHS Trust / Special Trustees of Barts and The London Hospitals, and is being carried out through the Department of Health Management and Food Policy at City University, London.

The research includes interviews with key individuals who work in Tower Hamlets and are linked with the local Bangladeshi community, as well as those who work in the area of public health policy. We would like to draw on the knowledge of these individuals and discuss their views on the issues concerning diet, the influences on food choices, and changing dietary patterns in Tower Hamlets and the wider community. We are contacting you because we would like to invite you to take part in this research.

We have enclosed an *Information Sheet* for your attention and hope that this will provide you with all the information you need about the research. However, if you do have any queries, please do not hesitate to contact Lisa Vaughan, who is the Chief Investigator for this project. Her contact details are provided on the bottom of the *Information Sheet*.

We would appreciate it if you could let us know whether you are willing to take part **by completing and returning the enclosed consent form not later than** ……

If you do agree to take part in the research, you will contacted to make the arrangements for the interview.

We look forward to hearing from you.

Yours sincerely,

Lisa Vaughan	Dr Martin Caraher	Professor Tim Lang
PhD Research Fellow	*Reader in Food Policy*	*Professor of Food Policy*

Enclosures: **Information Sheet, Consent Form**

Appendix 9 Explanatory statements

Barts and The London NHS
NHS Trust

CITY City University London

EXPLANATORY STATEMENT
FOR 'INTERVIEW PILOT' PARTICIPANTS

Project title: Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. We will read through the following information with you, or if you prefer you may read it yourself. If you would like, you can discuss it with others. Also, feel free to ask us if there is anything that is not clear, or if you would like more information.

What is the purpose of this study?
There has been a rapidly increasing number of people getting diabetes (type 2) across the world. It can affect people from every population, but certain groups, such as Bangladeshis, suffer at much higher rates than the rest of the population.

Getting diabetes (type 2) can be delayed or even prevented. Among the key changes that can be made are those relating to the food we eat and physical activity. There have been many changes in our food over the years – where we get it from, what we can choose and how we eat the food. This study will look at the changes in the Bangladeshi community in Tower Hamlets to see how people see these changes and what can be done to improve the situation where the changes have been negative ones.

The Aims
This study will be looking at:

- What are the things that have an effect on people's food choices and what changes have there been?
- What are the differences between Bangladeshis that immigrated to the UK and Bangladeshi's that were born in the UK?
- What do people from the Bangladeshi community see as some solutions to the issues that negatively affect their food choices?

The total time for collecting during the study will be about 2 years.

Why have I been invited to take part?
We have invited you to take part because we are interested in your views on the issues concerning food, things that affect your food choices, the changes that you have seen in the Bangladeshi community and how you see these changes. Before we undertake a larger number of interviews with other participants however we will be trialing how we carry out the interviews with a small number of people who will be representative of the community that we plan to interview further. There will be 8-12 people interviewed for pilot.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part, you will be given this information sheet to keep and will be asked to sign a consent form. You are free to withdraw at any time and without giving a reason.

What will happen to me if I take part?

We are asking you to take part in a face-to-face interview. The interview will include yourself and one or two other people. It will be arranged for a convenient time, and will take place at a place that is convenient for you for example at your local community centre. We estimate that it will last roughly 1 - 1½ hours. The interviews will be conducted in English, Sylheti or Bengali as preferred by you. Also, the interview will be conducted by either a male or female interviewer as appropriate. There will be an observer present throughout the interview who will be taking notes about the session. At the end of the interviews we would like to ask you questions about how you felt the interview went, for example, were there any topics / questions that you think need to be changed or any topics / questions that you think should be included in future interviews with other participants. We would like to tape-record the interview, to ensure that we have an accurate record of what you said. You will be asked to give written consent for the interview to be tape-recorded.

If you need to take public transport to then interview venue then reimbursement will be provided upon production of a receipt.

Refreshments will be provided at the interview.

Your rights

If you agree to take part in the research, you have the right to:

- withdraw at any stage without giving a reason
- withhold consent for tape-recording
- ask for any sensitive remarks to be withdrawn from the record
- withhold any information which you regard to be of a sensitive nature
- ask for tape-recording to be suspended at any point during the interview
- terminate the interview at any stage

What are the benefits of taking part?

By taking part in this pilot interview you will be helping to ensure that the questions being asked and the language being used is appropriate and relevant to members of your community. You will also be helping in the development and implementation of a diabetes health promotion and prevention programme for people in the Bangladeshi community based on expressed needs and the knowledge gained from the community. The information gained from this research can be used to help decide what changes need to be made to make it easier for the community to make healthy food choices. The information will also be used to increase the skills and knowledge of health professionals and community workers, to work better with the Bangladeshi community, and to increase the communities' ability to help change the things that may cause people to get diabetes (type 2).

Will my taking part in this study be kept confidential?

All information collected in the course of the study will remain strictly confidential. This includes data we collect, written and recorded, from interviews, meetings, observation and any informal discussions, as well as any documents that are not in the public domain. All information collected will be will be archived at Barts and The London NHS Trust (BLT) for 15 years. During this time BLT will act as the custodians. Following this period, all data will be destroyed.

By confidential, we mean that:

- all data will be securely stored under lock and key
- written records and electronic records will be stored separately
- all personal information will be securely stored in a separate location to the coded data
- the computer used for the project will be password protected
- all data will be accessible only to researchers working on the project and only for the purposes of the research
- all information that might enable a site or an individual to be identified will be removed from interview transcripts.

In addition, any abstracts from interviews that are used in any report and any publications will be anonymised. This means that no individual or location will be identifiable by name or address.

Feedback and dissemination

We will feed back a summary of the final findings of the research to everyone who takes part. This will be given to you in writing (Bengali and English) or a tape recording (Sylheti and English). A presentation will also take place in a communiy centre which you can attend and will be open to other members of the community.

During the project and at the end of the project, there will also be a written report to the funding organisation; presentations to health care staff; publication of findings in journals; presentation of findings at appropriate conferences; and a summary placed in the research section of the British Dietetic Association website. At no time will you be identified in any report, publication or presentation.

How is this research being funded?

The research has been funded by the Barts and The London NHS Trust & Special Trustees of Barts and The Royal London Hospitals.

Who has reviewed the research?

The design of the research has been looked at by Social Action for Health and developed by meeting and talking with them. It has also been reviewed by the East London and City Research Ethics Committee.

Contact for further information

If you have any queries or concerns regarding the evaluation or would like further information, please contact:

Lisa Vaughan
Department of Health Management and Food Policy
City University
Northampton Square
Goswell Place
London, EC1V 0HB

Ph: 020 7040 8943
Email: **l.t.vaughan@city.ac.uk**

Thank you for your participation in this study.

Barts and The London NHS
NHS Trust

City University London

EXPLANATORY STATEMENT

FOR PROJECT PARTICIPANTS: Face-to face interviews & Multi Pass Recall

Project title: Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. We will read through the following information with you, or if you prefer you may read it yourself. If you would like, you can discuss it with others. Also, feel free to ask us if there is anything that is not clear, or if you would like more information.

What is the purpose of this study?

There has been a rapidly increasing number of people getting diabetes (type 2) across the world. It can affect people from every population, but certain groups, such as Bangladeshi's, suffer at much higher rates than the rest of the population.

Getting diabetes (type 2) can be delayed or even prevented. Among the key changes that can be made are those relating to the food we eat and physical activity. There have been many changes in our food over the years – where we get it from, what we can choose and how we eat the food. This study will look at the changes in the Bangladeshi community in Tower Hamlets to see how people see these changes and what can be done to improve the situation where the changes have been negative ones.

The Aims

This study will be looking at:

- What are the things that have an effect on people's food choices and what changes have there been?
- What are the differences between Bangladeshis that immigrated to the UK and Bangladeshis that were born in the UK?
- What do members of the Bangladeshi community see as some solutions to the issues that negatively affect their food choices?

The total time for collecting information for the study will be about 2 years.

Why have I been invited to take part?

We have invited you to take part because we are interested in your views on the issues concerning food, things that affect your food choices, the changes that you have seen in the Bangladeshi community and how you see these changes. There will be 20-30 members of your community interviewed for this study.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part, you will be given this information sheet to keep and will be asked to sign a consent form. You are free to withdraw at any time and without giving a reason.

What will happen to me if I take part?

We are asking you to take part in a face-to-face interview. It will be arranged for a convenient time, and will take place at a place that is convenient for you for example in your home or at a community centre. We estimate that it will last roughly 1 - 1½ hours. The interviews will be conducted in English, Sylheti or Bengali as preferred by you. Also, the interview will also be conducted by either a male or female interviewer as appropriate. We would like to tape-record the interview, to ensure that we have an accurate record of what you said. You will be asked to give written consent for the interview to be tape-recorded.

Following the face-to-face interviews we would also like you to take part in three telephone interviews where you will be asked to recall all the food and drinks you ate and drank over the previous 24 hours, including the time and place meals and snacks were consumed. You will also be invited to make comments about whether there were any positive or negative aspects to the getting the food during the previous 24 hours.

If you need to take public transport to then interview venue then reimbursement will be provided upon production of a receipt.

Your rights

If you agree to take part in the research, you have the right to:

- withdraw at any stage without giving a reason
- withhold consent for tape-recording
- ask for any sensitive remarks to be withdrawn from the record
- withhold any information which you regard to be of a sensitive nature
- ask for tape-recording to be suspended at any point during the interview
- terminate the interview at any stage

What are the benefits of taking part?

By taking part in this research you will be helping in the development and implementation of a diabetes health promotion and prevention programme for people in the Bangladeshi community based on expressed needs and the knowledge gained from the community. The information gained from this research can be used to help decide what changes need to be made to make it easier for the community to make healthy food choices. The information will also be used to increase the skills and knowledge of health professionals and community workers, to work better with the Bangladeshi community, and to increase the communities' ability to help change the things that may cause people to get diabetes (type 2).

Will my taking part in this study be kept confidential?

All information collected in the course of the study will remain strictly confidential. This includes data we collect, written and recorded, from interviews, meetings, observation and any informal discussions, as well as any documents that are not in the public domain. Information collected during the study will be archived at Barts and The London NHS Trust (BLT) for 15 years. During this time BLT will act as the custodians. Following this period, all data will be destroyed.

By confidential, we mean that:

- all data will be securely stored under lock and key
- written records and electronic records will be stored separately
- personal information will be securely stored separately to the coded data
- the computer used for the project will be password protected
- all data will be accessible only to researchers working on the project and only for the purposes of the research
- all information that might enable a site or an individual to be identified will be removed from interview transcripts.

In addition, any abstracts from interviews that are used in any report and any publications will be anonymised. This means that no individual or location will be identifiable by name or address.

Feedback and dissemination

You will be invited to take part in a *discussion group* to comment on the first draft of findings from the study. Your views will be put into the final results. We will also feed back a summary of the final findings of the research to everyone who takes part. This will be given to you in writing (Bengali and English) or a tape recording (Sylheti and English). A presentation will also take place in a communiy centre which you can attend and will be open to other members of the community.

During the project and at the end of the project, there will also be a written report to the funding organisation; presentations to health care staff; publication of findings in journals; presentation of findings at appropriate conferences; and a summary placed in the research section of the British Dietetic Association website. At no time will you be identified in any report, publication or presentation.

How is this research being funded?

The research has been funded by the Barts and The London NHS Trust & Special Trustees of Barts and The Royal London Hospitals.

Who has reviewed the research?

The design of the research has been looked at by Social Action for Health and developed by meeting and talking with them. The study has also been guided by the Research Advisory Group to the Chief Investigator and reviewed by the East London and City Research Ethics Committee.

Contact for further information

If you have any queries or concerns regarding the evaluation or would like further information, please contact:

Lisa Vaughan
Department of Health Management and Food Policy
City University
Northampton Square
Goswell Place
London, EC1V 0HB

Ph: 020 7040 8943
Email: **l.t.vaughan@city.ac.uk**

Thank you for your participation in this study.

Barts and The London NHS
NHS Trust

City University London

EXPLANATORY STATEMENT
FOR KEY INFORMANT INTERVIEWS

Project title: Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. We will read through the following information with you, or if you prefer you may read it yourself. If you would like, you can discuss it with others. Also, feel free to ask us if there is anything that is not clear, or if you would like more information.

What is the purpose of this study?
There has been a rapidly increasing number of people developing type 2 diabetes across the world. In particular, people from socially disadvantaged groups and minority ethnic groups, especially those from the South Asian community, suffer disproportionally from type 2 diabetes. In the UK, Bangladeshis of both sexes are more than five times as likely as the general population to have type 2 diabetes.

The onset of type 2 diabetes can be delayed or even prevented. Among the key modifiable risk factors are those related to the food we eat and physical activity. There have been many changes in our food over the years – where we get it from, what we can choose and how we eat the food. This study will look at the changes in the Bangladeshi community in Tower Hamlets to see how people see these changes and what can be done to improve the situation where the changes have been negative ones.

The Aims
This study is exploring:

- What are the things that have an effect on people's food choices and what changes have there been?
- What are the differences between Bangladeshis that immigrated to the UK and Bangladeshis that were born in the UK?
- What do the Bangladeshi community see as the solution to the issues that negatively affect their food choices?

The total time for data collection for the study will be approximately 2 years.

Why have I been invited to take part?
We have invited you to take part because we are interested in your views on the issues concerning diet and the influences on food choices in Tower Hamlets, and the impact on the growing prevalence of type 2 diabetes. We are interested in your views on food and eating from an 'experts' perspective. There will be 10-12 key informants interviewed for this study from a variety of different fields.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part, you will be given this information sheet to keep and will be asked to sign a consent form. You are free to withdraw at any time and without giving a reason.

What will happen to me if I take part?

We are asking you to take part in a face-to-face interview. It will be arranged for a convenient time, and will take place at a place that is convenient for you for example at your place of work. We estimate that it will last roughly 1 - 1½ hours. We would like to tape-record the interview, to ensure that we have an accurate record of what you said. You will be asked to give written consent for the interview to be tape-recorded.

If you need to take public transport to then interview venue then reimbursement will be provided upon production of a receipt.

Your rights

If you agree to take part in the research, you have the right to:

- withdraw at any stage without giving a reason
- withhold consent for tape-recording
- ask for any sensitive remarks to be withdrawn from the record
- withhold any information which you regard to be of a sensitive nature
- ask for tape-recording to be suspended at any point during the interview
- terminate the interview at any stage
- at anytime, withhold consent for keeping a diary

What are the benefits of taking part?

By taking part in this research you will be helping in the development and implementation of a diabetes health promotion and prevention programme for people in the Bangladeshi community based on the knowledge gained from the community and key members working in the community. The information gained from this research can be used to assist in deciding what changes need to be made to the social infrastructure to enable the community to make healthy food choices. The information will also be used to increase the skills and knowledge of health professionals and community workers, to work better with the Bangladeshi community, and to increase the communities' ability to change some of the modifiable risk factors in the development of type 2 diabetes.

Will my taking part in this study be kept confidential?

All information collected in the course of the study will remain strictly confidential. This includes data we collect, written and recorded, from interviews, meetings, observation and any informal discussions, as well as any documents that are not in the public domain. All data will be archived at Barts and The London NHS Trust (BLT) for 15 years. During this time BLT will act as the custodians. Following this period, all data will be destroyed.

By confidential, we mean that:

- all data will be securely stored under lock and key
- written records and electronic records will be stored separately
- personal information will be stored separately to coded data from the study
- the computer used for the project will be password protected
- all data will be accessible only to researchers working on the project and only for the purposes of the research
- all information that might enable a site or an individual to be identified will be removed from transcripts.

In addition, any abstracts from interviews that are used in any report and any publications will be anonymised. This means that no individual or location will be identifiable by name or address.

Feedback and dissemination

You will be invited to comment on the findings from your interview and your views will be incorporated into the final results. We will also feed back a summary of the final findings of the research to everyone who takes part. A presentation will take place in a communiy centre which you can attend and will be open to other members of the community.

During the project and at the end of the project, there will also be a written report to the funding organisation; presentations to health care staff; publication of findings in journals; presentation of findings at appropriate conferences; and a summary placed in the research section of the British Dietetic Association website. At no time will you be identified in any report, publication or presentation.

How is this research being funded?

The research has been funded by the Barts and The London NHS Trust & Special Trustees of Barts and The Royal London Hospitals.

Who has reviewed the research?

The design of the research has been looked at by Social Action for Health and developed by meeting and talking with them. The study has also been guided by the Research Advisory Group to the Chief Investigator and reviewed by the East London and City Research Ethics Committee.

Contact for further information

If you have any queries or concerns regarding the evaluation or would like further information, please contact:

Lisa Vaughan
Department of Health Management and Food Policy
City University
5th Floor Tait Building
Northampton Square
London, EC1V 0HB

Ph: 020 7040 8943
Email: **l.t.vaughan@city.ac.uk**

Thank you for your participation in this study.

Appendix 10 Interview topic guides

Interview Topic Guide: Community participants

Title of Project: Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.

Thank you for agreeing to take part in this interview.

Before we start, I would just like to ask some questions about you. Can you please answer the following questions?

Marital Status

Married ☐ *Single* ☐ *Other* ☐

Gender

Female ☐ *Male* ☐

Country of birth

Britain ☐ *Bangladesh* ☐ *Other* ……

If Bangladesh or other, at what age did you arrive in Britain? ……

Religion

Muslim ☐ *Hindu* ☐ *Other:* ……

1st Language

Bengali ☐ *Sylheti* ☐ *English* ☐

Other languages spoken: ……

Age

20-24 ☐ *25-29* ☐ *30-34* ☐ *35-39* ☐ *40-50* ☐

Number of Children

1 ☐ *2* ☐ *3* ☐ *4* ☐ more than 4, please specify: .

Number of children living at home (i.e. dependent)

1 ☐ *2* ☐ *3* ☐ *4* ☐ more than 4, please specify:

Tenure

Owned outright ☐

Owner with mortgage ☐

Local authority rented ☐

Housing Association rented ☐

Private rented ☐

Living with family / other ☐

Employment

Full time > 30 hours / week ☐

Part time up to 30 hours/week ☐

Not employed ☐

Irregular employment ☐

Total family / household income

Less than £10 000 per year ☐

£10 001 – 15 000 per year ☐

£15001 – 20 000 per year ☐

Greater the £20 0001 per year ☐

If yearly income not known, total family / household weekly income:…….

Social Security Benefits (*yourself*)

Income Support ☐

Family Credit ☐

Other ☐

Not applicable ☐

Other *family / household members of adult age* in receipt of Social Security Benefits
(Place number in each box)

Social Security Benefits

Income Support ☐

Family Credit ☐

Refugee Benefits ☐

Other ☐

Not applicable ☐

Educational qualification (highest achieved)

None ☐ *GCE 0-level/CSE* ☐

GCE A level ☐ *Degree / technical / professional / vocational* ☐

Other ☐

Now we will be discussing the things that you feel influence your food choices and the changes that may have occurred in your diet. We would also like to discuss any changes that you feel need to be made and seek solutions to the issues that negatively affect your food choices. We expect that this interview will take one to one and a half hours.

- *Can you tell me some of the things that are important to you when selecting the food and drinks that you eat and drink?*

  Prompts: (Explain)

  - Convenience (types of food / where food is purchased)

  - Quality (how is this determined)

- Price
- Brand
- Views on food manufacturing and processing on health
- Own or families health
- Pleasure / social importance
- Status
- Appearance
- Emotional needs (when happy or sad)
- Religion
- Body image e.g. to look better / slimmer / bigger (why? – magazines / culture)
- Environment e.g. sustainability (where the food comes from), organic foods, fair trade
- Animal welfare

- *Where do you think your general knowledge about food and diet comes from and in particular what foods are healthy?*

  Prompts:

  - Passed down from mother / grandmother / relative / friends
  - Television
  - School
  - Magazines e.g. on healthy eating / cooking
  - Health professional e.g. Dietitian / Doctor / Nurse
  - Do you think more information is needed?
  - Where do you think it is best to get this information from?
  - What is the best way to be given this information?

- *Can you tell me what foods / drinks in particular you consider to be healthy or unhealthy? Can you explain why?*

  Prompts:

  - What foods/drinks do you think you should eat more of?
  - What foods/drinks do you think it is better to have less of?
  - Any foods in particular that you feel are necessary for good health?
  - Are there any foods that are important at different stages in life e.g. children, when pregnant, if unwell?

- *Do you know of / believe in, any foods / drinks / remedies to help maintain good health or prevent specific illnesses e.g. diabetes?*
  - black seed oil
  - rice

Now looking at how you prepare foods, and where and when they are eaten, I'd like to discuss some different aspects:

- *Can you tell me about how you cook and prepare your food?*

Prompts:

- Cooks own meals – how often?
- Who taught you how to cook?
- Do you use recipes or is cooking something that you learn what to do from watching other and practice?
- How is cooking different in Britain versus Bangladesh?
- What type of meals – traditional / British?
- Ready meals / frozen meals – how often?
- Cooks on special occasions only
- Cooks when family present
- How important is convenience to you?

- *Is your family income adequate to buy sufficient (healthy) foods for yourself and your family?*

  Prompts:
  - healthy
  - affordable
  - culturally appropriate
  - desirable
  - indulgence / special
  - do compromises have to be made – if so, which foods would you cut back on first and why?

- *How often do you eat 'traditional' Bangladeshi foods?*

  Prompts:

  - What foods are these?
  - Is this important to you?
  - Do you spend any time visiting Bangladesh? Describe.
  - Is the food eaten when in Bangladesh very different to the food eaten in England? What are the differences and why do the differences occur?
  - Do you feel the food is better in Bangladesh or Britain?

- *Meal times structure and snacking habits*

  Prompts:
  - Regular meals?
  - What is meant by regular meals?
  - What is a meal considered to be?
  - How important are the family meals and what types of food do you eat there?
  - What differences do you see between yourself and other members of your family?
  - Do you think home cooked meals and ready meals are both good for you or do you prefer one over the other – which one?
  - Eating away from home? How often and what meals?

- Snacks taken between meals? Where?
- What types of snacks? Fruit, crisps, chocolates, sweets etc. Ask to describe.

- *What is your opinion on fast foods restaurants and take-aways?*

  Prompts:

  - How often would you or your family eat there or buy foods from them?
  - What are the reasons you eat there (food, Western image, affordability, attractive for children, status, availability)
  - Do you feel that these types of food are becoming part of the Bangladeshi culture?
  - What is your opinion about the food served in Bangladeshi restaurants? Healthy or not? Do they represent 'real' Bangladeshi food or Westernised Bangladeshi food?
  - What about Bangladeshi cafes'
  - What about the quality of the food in take-away shops?

- *Food shopping habits*

  Prompts:
  - Supermarkets
  - Markets
  - Convenience stores / local grocer / large Bengali grocer
  - Co-op's
  - Do you have access to home-grown fruit / vegetables or herbs? E.g. from own garden, City Farm or allotment?
  - How often?
  - Why chosen: convenience / price / access?
  - Do you read food labels? Do you understand them? What do you look for?
  - Do you shop by yourself or with others?
  - How do you get to the shops – walk / bus / car?

- *What is your view on supermarkets?*
  Prompts:
  - Do they offer you the choice you want?
  - Do they effect how often you shop for food?
  - Are the prices as the supermarket lower and do the special offers affect you intention to purchase?
  - Are there foods in the supermarket that you buy now that you couldn't at other places?
  - Are there some foods that you wouldn't buy in a supermarket? Why?

- *Can you describe your lifestyle?*
  Prompts:
  - If employed, what type of job (physical or sedentary – describe)
  - How do you describe physical activity / exercise?

- What type of exercise do you do? How often?
- Do you think exercise / physical activity is important? Why?
- Is there anything that prevents you exercising? Access / safety / appropriate facilities / health
- How often do you watch TV? How many hours?
- If previously lived in Bangladesh – what difference are there in the type of activity undertaken?

- *A few questions about diabetes:*
  - Do you know what diabetes is?
  - Can you tell me what you know about how you get diabetes?
  - Does anybody in your family have diabetes? Who?
  - Do you think there is anything that you can do to avoid getting diabetes?

- *Is there anything else you can tell me about what you feel needs to be done to enable people to make 'healthy' food choices & increase physical activity in your community?*
  Prompts:
  - Education groups / information sessions
    - best venues?
  - Literature e.g. pamphlets
  - Targeted public health messages
    - best outlets e.g. Bangla TV, Islam channel
  - Advertisements
  - Which members of the community do they feel require the most assistance? Are there any groups in particular you feel need more assistance than others / have less access?
  - Best people to deliver the information? Health professionals / community members / religious leaders
  - More venues for exercise – what would be best?

- *Due you feel that as a community there may be things that you could do to help push for improvements in the areas you have identified as important?*

- *Finally, we'd appreciate your opinion specifically about potential policies concerning food.*
  Prompts:
  - Government regulation of the advertising of 'junk' food and fast food, aimed at children, such as is done for alcohol and cigarettes?

  - A tax on high fat/sugar/salt foods?
    - use the proceeds for the production and distribution of nutritious foods?
    - If disagree, why?

- Food labeling – a traffic light guide (for low, medium and high content of fat, sugar and salt) or guideline daily amounts (what your food contains and what it contributes to your Guideline Daily Amounts).

SEE IMAGES BELOW TO SHOW PARTICIPANT

- Reducing the number of fast food outlets e.g. fried chicken shops, pizza shops

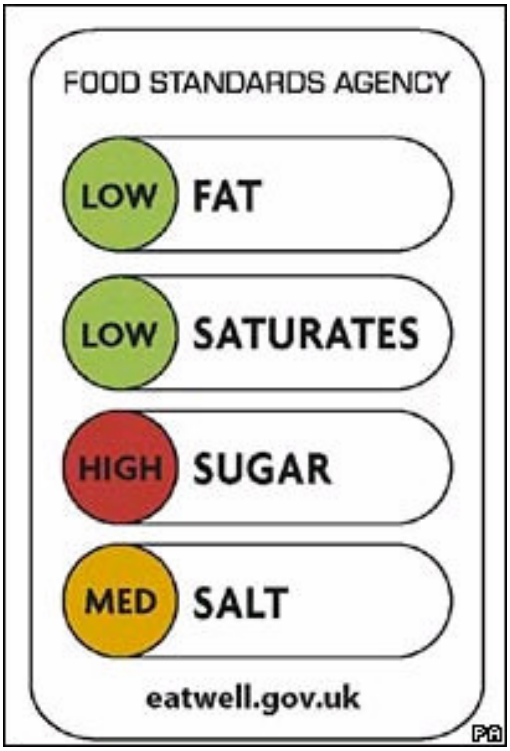
- How much do you think can be done by individuals alone?

  i.e. making it an individual responsibility to make dietary & lifestyle changes versus, say, social policies that change the environment to enable better choices; how easy is it to choose healthy options with the current level of advertising, fast food outlets, expense etc?

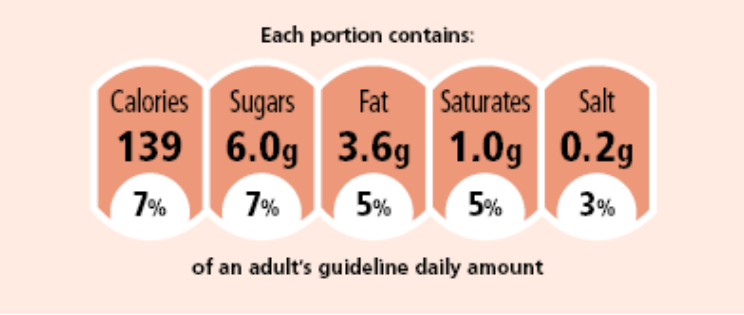
  Are people able to make real choices in the current environment (price, access, advertising etc) or is the government shifting blame to the individual?

Thank you for participating

Traffic light labelling



Guideline Daily Amounts



Barts and The London NHS
NHS Trust

City University London

Key Informant Interview Topic Guide

Title of Project: Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.

Firstly, thank you for agreeing to take part in this interview. We are interested in your opinions in your expert capacity rather than an individual. We expect that this interview will take approximately one to one and a half hours.

Before we start, I would just like to ask some questions about you. Can you please answer the following questions?

Gender

Female ☐ *Male* ☐

Position / Post e.g. Shop owner, project co-ordinator, Dietitian, Religious Leader

……

Length of time living / working (circle as appropriate) in Tower Hamlets

……

Country of origin

Britain ☐ *Bangladesh* ☐ *Other* ……..

Educational qualification (highest achieved)

None ☐ *GCE 0-level/CSE* ☐

GCE A level ☐ *Degree / technical / professional / vocational* ☐

Other ☐

Notes to interviewer:

The following questions are relevant to those involved with 'food' as part of the role in some way and/or work closely with the Bangladeshi community e.g. Dietitians, food co-op workers, health guides, healthy moves guides, restaurant / shop owners.

Initially we will be discussing the things that you feel influence food choices in the Bangladeshi community in Tower Hamlets and the dietary changes that may have occurred / be occurring. We would also like to discuss any changes that you feel need to be made and seek solutions to the issues that negatively affect food choices for this community.

- ***What do you feel characterises a Traditional Bangladeshi diet versus a more Western style diet?***

  Prompts:
  - describe a typical day / meal – foods eaten or prepared for both a Bangladeshi and a Western Style diet?
  - fruit, vegetables
  - bread and cereals
  - fish, meat (beef, lamb, chicken, pork)
  - dairy
  - fat (oil, butter, margarine, ghee, lard)
  - snacks e.g. sweets, crisps, cakes, biscuits
  - home cooked / convenience meals / take-aways
  - how it's eaten e.g. with family, in the home, out of the home
  - specific meals e.g. breakfast / lunch / evening meal
  - importance of meals
  - methods of preparation
  - method of cooking
  - use of ingredients

- ***Do you believe that 'traditional' Bangladeshi foods are still eaten and are considered to be important? (In the East End/UK)***

  Prompts:
  - What foods are these?
  - Are there differences between the generations?
  - Do you think that if people visit Bangladesh makes a difference to the retention of traditional eating habits? Describe.

- ***Can you tell me what you would recommend to people from the Bangladeshi community to promote a healthy diet?***

  Prompts:

  - What foods/drinks should be consumed less frequently?
  - What foods/drinks should be consumed more frequently?
  - Are there any differences in recommendations for the different generations?
  - Do you know of any health beliefs in relation to specific foods / ingredients / herbs? E.g. black seed oil, honey, neem leaves, tulsi, chirota? What is their significance?
  - Do you believe traditional food beliefs based on Ayurvedic medicine e.g. hot / cold are still practiced? Does this have any significant impact on food choices?

- ***Do you think there are any barriers which may prevent this community from accessing healthy food items?***

  Prompts:

  - access to shops
  - cost
  - quality
  - transport
  - knowledge
  - beliefs

- ***Where do you think the people in this community primarily gain their knowledge about food and healthy eating?***

  Prompts:
  - Passed down from mother / grandmother / relative / friends
  - Television
  - School
  - Magazines
  - Health professional e.g. Dietitian / Doctor / Nurse
  - Do you think more information is needed?
  - Where do you think it is best to get this information from?
  - What is the best way to be given this information?

- ***What are your beliefs about how foods are cooked and prepared within the Bangladeshi community? Do you think there have been any changes / differences between generations?***

  Prompts:
  - Cooks own meals – any in particular? Special occasions only / all meals / only evening meal / only on weekends / with the family
  - How do members of the community learn to cook?
  - What type of meals – traditional / British?
  - Ready meals / frozen meals – how often?
  - How important is convenience?

- ***What is your view about the meal time structure and snacking habits in this community?***

  Is this view based on opinion / observation / experience?

  Prompts:

  - Regular meals?
  - Meal timing?
  - What do you consider a meal to be?
  - How important are the family meals and what types of food would be eaten?
  - Eating away from home? How often and what meals?
  - Snacks taken between meals? Where?

- What types of snacks? Fruit, crisps, chocolates, sweets etc. Ask to describe.
- Do you see any differences between first and second generation Bangladeshi's?

- ***What is your opinion on fast food restaurants and take-aways (generally & in Tower Hamlets specifically)?***

  Prompts:
  - Do you feel that members of the Bangladeshi community eat there or buy foods from them? Any particular members of the community?
  - What are the reasons they may eat there (type of food, convenience, Western image, affordability, attractive for children, status)
  - Do you feel that these types of food are becoming part of the Bangladeshi culture?
  - Availability / access / cost

- ***Food shopping habits***

  Prompts:

  - Do you know where Bangladeshi people shop for their food e.g. supermarkets, markets, convenience stores, co-op's, home-grown fruit / vegetables or herbs e.g. from City Farm or allotment?
  - Why chosen: convenience / price / access / quality / availability of traditional foods
  - Any issues accessing food shops? Describe.

- ***What is your view on supermarkets?***

  Prompts:
  - Do they offer real choice?
  - Do they influence purchasing behaviour? Types food supplied / pricing / product placement
  - Do they affect shopping habits in terms of frequency or transport?

- ***Looking at lifestyle, what do you believe to be the main issues for this community?***

  Prompts:
  - Is exercise / physical activity considered to be important? Explain?
  - Is there anything that prevents members of this community from exercising? Access / safety / appropriate facilities

- ***Overall, what do you see as the main similarities and differences between generations in the Bangladeshi community with respect to their food choices and what may influence them?***

- ***If you have lived or worked in Tower Hamlets for a number of years, can you describe what the main changes you have seen in the things that may influence people's food choice?***

Prompts:

- Types of food shops e.g. supermarkets / restaurants / take-aways outlets / markets / butchers / green grocers / convenience stores
- Cultural changes e.g. taking on aspects of the British culture / retaining Bangladeshi culture / combination (which parts)
- Influence of advertising / media / friends

- ***Is there anything else you can tell me about what you feel needs to be done to enable people to make 'healthy' food choices & increase physical activity in this community?***

Prompts:

- Major challenges / barriers to achieving a healthy diet
- Education groups / information sessions
  - best venues?
- Literature e.g. pamphlets
- Targeted public health messages
  - best outlets e.g. Bangla TV, Islam channel
- Advertisements
- Which members of the community do they feel require the most assistance?
- Best people to deliver the information? Health professionals / community members / religious leaders
- More venues for exercise – what would be best?

Now, a few questions about diabetes:

- ***What, if any, formal connection do you have with diabetes in your role / position? Describe.***

- ***Do you have any personal experience of diabetes?***

Prompts:

- Family
- Friends

- ***What is your knowledge regarding diabetes?***

Prompts:

- Do you know what diabetes is? Please describe.
- What do you feel are the main causes of diabetes?
- Are you aware of the prevalence of type 2 diabetes (in this community compared to the whole UK population)? Explain
- What do you feel the public health implications of diabetes are?
- What do you think members of this community can do themselves to help reduce the risk of developing type 2 diabetes?

- ***There are many views on whom / what is responsible for the current obesity / diabetes epidemic - please comment.***

Prompts:

- Personal choices / responsibility
- Corporate effects / responsibility e.g. food manufacturers & retailers
- Environment e.g. town planning

- ***We'd also appreciate your opinion specifically about potential policies***

Prompts:

- Government regulation of the advertising of 'junk' food and fast food, aimed at children, such as is done for alcohol and cigarettes?

- A tax on high fat/sugar/salt foods?
  - use the proceeds for the production and distribution of nutritious foods?
- Reducing the number of fast food outlets e.g. fried chicken shops

- Food labeling – a traffic light guide (for low, medium and high content of fat, sugar and salt) or guideline daily amounts (what your food contains and what it contributes to your Guideline Daily Amounts.

IMAGES BELOW TO SHOW PARTICIPANT – is one better than the other? Which is easier to understand, especially for this community?

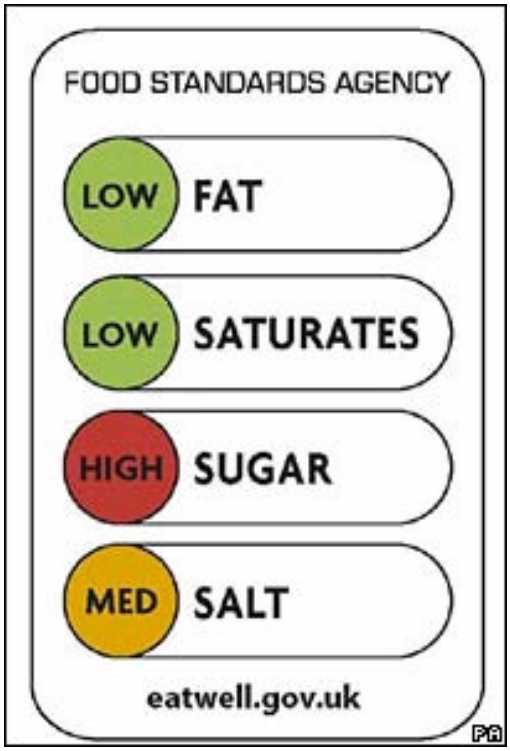
- Making it an individual responsibility to make dietary & lifestyle changes versus, say, social policies that change the environment to enable better choices

- What do you think others e.g. policy makers, the government, can do to help reduce the incidence of overweight / obesity / diabetes in this community?

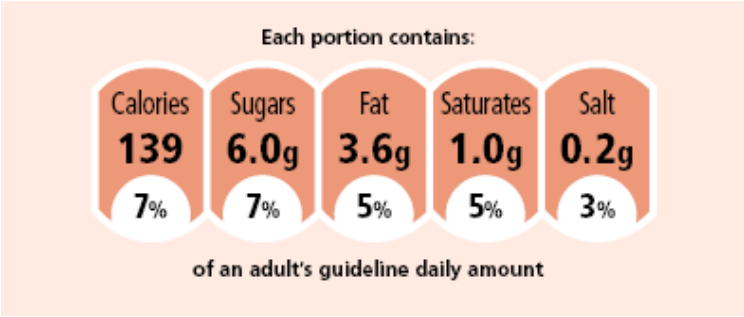
- Is it the governments' responsibility to influence our food choices? Explain.

- Can you outline things that may need to be done to the infrastructure in the community to help people to avoid getting diabetes?

Traffic light labelling



Guideline Daily Amounts



Thank you for participating

Barts and The London NHS
NHS Trust

City University London

Key Informant Interview Topic Guide – policy focus

Title of Project: Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.

Firstly, thank you for agreeing to take part in this interview. We are interested in your opinions in your expert capacity rather than an individual. We expect that this interview will take approximately one to one and a half hours.

Before we start, I would just like to ask some questions about you. Can you please answer the following questions?

Gender

Female ☐ *Male* ☐

Position / Post e.g. Shop owner, project co-ordinator, Dietitian, Religious Leader

……
……

Length of time living / working (circle as appropriate) in Tower Hamlets

……
……

Country of origin

Britain ☐ *Bangladesh* ☐ *Other*
……..……..

Educational qualification (highest achieved)

None ☐ *GCE 0-level/CSE* ☐

GCE A level ☐ *Degree / technical / professional / vocational* ☐

Other ☐

Note to interviewer:

The following questions are policy specific and will be relevant to those who have involvement in this area e.g. public health strategic leads, GP's, policy makers, special interest groups involved in public health nutrition.

- ***What is your professional role / experience in relation to obesity / diabetes?***

  Please describe.

  - Health promotion
  - Prevention strategies
  - Policy development
  - Public health nutrition
  - Clinical nutrition
  - Can you give examples?
  - Difficulties encountered?
  - Successes?

- ***What is your motivation for working in this particular area?***

- ***Can you please give your views on why obesity / diabetes have now become such a dominant issue?***

  Evidence has been strong for decades – so why now? What has been the tipping point?

  How are you seeing this reflected?

  - Media
  - Political interest
  - Society

- ***There are many views on whom / what is responsible for the current obesity / diabetes epidemic - please comment. Comment on the tensions.***
  - Personal choices / responsibility
  - Corporate effects / responsibility
  - Environment – abundance; T/A; access to cheap food; space

- ***Looking specifically minority ethnic communities, such as the Bangladeshi community in TH, do you feel that there are any specific considerations to enable healthy food choices / for prevention of obesity and diabetes?***

- ***In your view, where is current obesity / diabetes policy developing?***
  - Main players / influencers?
  - Who should have policy influence?

  Views on:

- Top down approaches e.g. regulation / education
- Bottom up approaches e.g. community development / personal counselling
- Where is funding being focused?
- Motivations?

- ***What do you see as the role of 'public knowledge' (lay) in obesity / diabetes prevention policy?***
  - How can the unstructured world of public engagement feed into policy?
  - Some say issue is too complex / they won't understand - comment

- ***What do you feel are the issues, both positive and negative, around evidence based policy?***

  What, if any, is the role of the precautionary principle in policy?
  E.g. a move towards using the best evidence available rather than scientific certainty.
  Some say obesity is too complex an issue, there is not enough evidence for policy changes therefore too difficult. E.g issue of town planning / calories etc etc.

- ***Do you see a role for broader expertise e.g. social science, town planners?***
  E.g. in determining:
  - Barriers / influences to food choice
  - How to influence public behaviour in a positive direction e.g. issues around sustainability

- ***Looking now to specific strategies for obesity / diabetes prevention policy, what are your views on current strategies, both the demand and supply side – what you consider will be the most / least effective?***
  Fiscal:
  - Making individuals who follow who do not follow the dietary recommendations bear a higher part of the consequent costs borne by the public health systems or as has been crudely put, "make the fatties pay"
  - Fat taxes
  - Advertising regulation
  - Taxation on food advertising
  - Taxes on production and manufacturing
  - Change the relative prices of healthy and unhealthy foods

  Changing food system:
  - e.g. agriculture – what is produced
  - manufacturing – ingredients / portions /products

  Environment policy – playing fields, activity centres, healthy workplaces / schools
  Education: knowledge and skills

Retail:

- Reduction of in the concentration food stores selling poor quality, calorie dense

Now we will be discussing the things that you feel influence food choices in minority ethnic communities' e.g. Bangladeshi community in Tower Hamlets and the dietary changes that may have occurred / be occurring.

- ***What do you see as the things that are important when selecting food and drinks?***
  Prompts:(Comment)
  - Convenience (types of food / where food is purchased)
  - Quality (how is this determined)
  - Pleasure / social importance
  - Status
  - Emotional needs (when happy or sad)
  - Body image e.g. to look better / slimmer / bigger (why – magazines / culture)
  - Views on food manufacturing and processing on health
  - Environment e.g. sustainability (where the food comes from), organic foods, local food
  - Religion
  - Fair trade

- ***Do you think there are any barriers which may prevent these communities from accessing healthy food items?***
  Prompts:
  - Access to shops
  - cost
  - quality
  - transport
  - knowledge
  - beliefs

- ***Do you feel this community (specifically Bangladeshi /predominantly Muslim) has an understanding of the concept of prevention? I.e. the link between obesity and associated diseases such as diabetes?***

- ***Where do you think the people in this community gain their knowledge about food and healthy eating?***

  Prompts:
  - Passed down from mother / grandmother / relative / friends
  - Television
  - School
  - Magazines
  - Health professional e.g. Dietitian / Doctor / Nurse
  - Do you think more information is needed?
  - Where do you think it is best to get this information from?
  - What is the best way to be given this information?

- ***What is your opinion on fast food restaurants and take-aways in Tower Hamlets (or similar deprived areas)?***

  Prompts:
  - Do you feel that members of the Bangladeshi community eat there or buy foods from them? Any particular members of the community?
  - What are the reasons they may eat there (type of food, convenience, Western image, affordability, attractive for children, status)
  - Do you feel that these types of food are becoming part of the Bangladeshi culture?
  - Availability / access / cost

- ***Looking at lifestyle, what do you believe to be the main issues for this community (Bangladeshi / Muslim)?***

  Prompts:
  - Is exercise / physical activity considered to be important? Explain?
  - Is there anything that prevents members of this community from exercising?
  - Access / safety / appropriate facilities

- ***Finally, what do you see as the main similarities and differences between generations in the Bangladeshi community with respect to their food choices and what may influence them?***

Thank you for participating

Barts and The London NHS
NHS Trust

City University London

Participant code:……

Interview Topic Guide: Multiple Pass Recall Telephone Interview

Interview (circle) **1** **2** **3**

Weekday ☐

OR

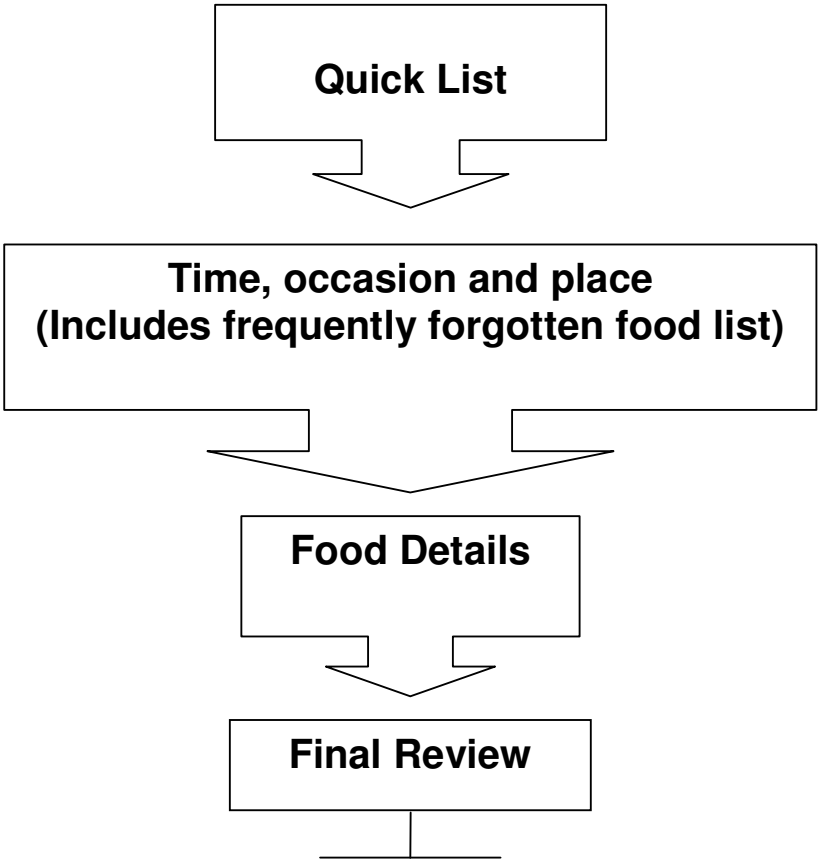
Weekend day ☐

Title of Project:

Food choices and British Bangladeshis living in Tower Hamlets East London: an intergenerational study of the factors influencing food choices and dietary transition.

Thank you for agreeing to take part in this interview. I will be asking a series of general questions regarding the food and drink you consumed yesterday. I will then ask you some more specific questions to gain further detail about the information you have provided to me. Before we finish, I will read back to you what I have written down for you to check that you agree.

Multiple Pass Format



Quick List

1. *Can you please take me through your day yesterday and tell me what you ate and drank?*

Time, occasion and place

Prompt lists for food items:

2. *Apart from what you have already told me, I'm now going to go through some checklists with you to see if there are any foods we may have missed.*

Beverages:

- Fruit juice
- Vegetable juice
- Milk (as a beverage)
- Fizzy drink
- Sharbat
- Lassi
- Coffee
- Tea

Fruits:

- Apples
- Bananas
- Oranges

- Grapes
- Mango
- Jackfruit
- Papaya
- Lychees
- Pomegranate
- Pineapple
- Watermelon
- Satsuma
- Pears
- Plum
- Peach
- Nectarine
- Grapefruit

Vegetables, dried beans and pulses*:*

Vegetables:
- Tinned tomatoes
- Onions
- Frozen peas
- Lettuce
- Karalla
- Aubergine
- Courgettes
- Squash
- Leaves of squash (lau fatha)
- Marrow
- New potatoes
- Eddoes

Dried beans and pulses
- Masoor dahl
- Channa dahl
- Chick peas (dried)
- Kidney beans
- Runner beans
- Broad beans

Types of fat used:
- Butter
- Olive oil
- Corn oil
- Ghee
- Vegetable oil
- Sunflower oil
- Spreads

Rice or pasta or pizza*:*
- White pasta
- Basmati rice
- Long grain white rice
- Brown rice
- Chapatti flour
- Vermicelli
- Semolina
- Macaroni and cheese
- Pizza

Cereals and breads:
- Whole meal sliced bread
- White sliced bread
- Granary sliced bread
- Bread roll

- Naan bread
- Chapatti
- Breakfast cereals e.g. cornflakes, rice krispies, weetabix, porridge oats

Milk and dairy
- Cheese
- Paneer
- Greek yoghurt
- Fruit yogurt
- Full-cream milk
- Semi-skimmed milk
- Skimmed milk

Meat, fish and alternatives
- Cod
- Fish fingers
- Mackerel
- Herring
- Trout
- Catfish
- Kheski
- Hilsha
- Buwal
- Mirca
- Fabya
- Foti
- Carp
- Dried fish
- Salt fish
- Sprats
- Prawns
- Tinned sardines
- Chicken
- Lamb

Snack Foods
- Vegetable samosas
- Meat samosas
- Crisps
- Nuts
- Biscuits
- Chana chur
- Dhal puri
- Sweets (describe)
- Chocolate
- Cake
- Pudding e.g. pie, cheesecake
- Ice-cream

Foods taken away from the home:
- Chips
- Fried chicken
- Battered fish
- Pizza
- Asian

Seasonings and spices:
- Garam marsala
- Tumeric
- Chilli powder,
- Coriander,
- Garlic,
- Salt,
- Pepper

3. *I'm going to go back through this list with you now. Can you tell me what time you ate / drank the food?*

   (Progress through your list each item in sequence)

4. *Now going through this list of meals, I'd like you to tell me what you would call it.*

   (For example, breakfast, lunch, evening meal, snack)

5. *Again, going back through the list of meals, can you now tell me where you ate the food?*

   (For example home, work, café, takeaway shop, restaurant, friends house)

Food Details

6. I now need to get some more detail about the quantities of food that you ate.

Example probe questions:

Beverages:

How many glasses / cups?
What size was the glass/cup?

Additions to coffee and tea & quantity
- Sugar or honey: *how many spoons did you add? What size spoons did you use?*
- Artificial sweetener
- Cream
- Full-cream, semi-skimmed or skimmed milk.

Fruit:

Did you eat the whole piece of fruit or a part of the fruit?

For foods like melon: *How much of the melon did you eat? E.g. ½, ¼*

How many pieces did you eat?

Picture cards can be used as a prompt.

Starchy vegetables:

What kind of potato did you use e.g. new, old?

How was the potato prepared?
- in a mixed dish
- boiled
- baked
- mashed

How much potato did you eat?
- Number / estimated size
- Picture cards of potatoes may be used as a prompt.

How were your vegetables prepared?
- Fried
- Boiled
- Baked
- Grilled
- Mixed dish

Additions to vegetables, dried beans and pulses
- Fat added during cooking
- Fat added after cooking
- Salad dressing

- Mayonnaise
- Sauce e.g. chilli, tomato, brown

Fats:

Can you tell me how much …. you used?
Teaspoons, tablespoons, thickly spread, thinly spread etc

Rice / pasta /pizza:

Can you tell me how much rice, pasta, pizza you ate?
How much of the plate did it take up?
How many handfuls?

Picture cards can be used as a prompt.

Cereals and Breads:

How many slices?
What size were the Naan / Chapatti
What size were the bread rolls?
What size bowl of cereal did you have? ½ full, full to top etc.

Picture cards can be used as a prompt.

Meat, fish and alternatives:

Can you tell me how much you ate?
- *Pieces of chicken*
- *Size of fish*
- *Size of tin*
- *Grams*
- *Compared to palm of hand*

Can you tell me what kind it was?
- *Chicken breast / thigh /wing*
- *What cut of lamb*
- *What kind of fish?*
- *Was the fish fresh / dried /tinned / crumbed/ battered?*

Snack foods:
- *How many ….. did you eat?*
- *What size was the packet of nuts / chana chur …?*
- *How many handfuls of … did you have?*
- *How big was the slice of cake? How many scoops of ice-cream?*

Picture cards can be used as a prompt.

Foods taken away from the home:
- *What size were the chips?*
- *How many pieces of chicken?*
- *What size was the fish? Small / medium /large?*
- *What size was the pizza? How much did you eat? ¼, ½, all?*
- *Where did you buy it from? Takeaway store (name), supermarket, restaurant, café?*

Final Review

7. I'll just read back to you what I have written down. Can you tell me if there is anything else you think we may have missed or anything you disagree with?

8. Is there any thing else you would like to comment on, regarding positive or negative aspects to gaining the food you ate yesterday?

Thank you for participating

Appendix 11 Bangladeshi Healthy Food Basket Survey

Project Title: Development of a Bangladeshi Healthy Food Basket

Bangladeshi Healthy Food Basket Survey

A food basket survey is used to obtain information on the food cost, availability and access in a specific area. A standard list of basic foods is drawn up which then compiles a food basket. A food basket survey may be undertaken for various reasons, such as finding out how much the foodstuffs cost in a specific area, whether there are a variety of foodstuffs being sold in that area, whether there are foodstuffs available for people from different ethnicities, whether the shops or supermarkets are accessible for those who do not own a car, or are disabled etc.

Below is a list of foods which have been compiled from previous studies and other literature.

Do you think there is anything missing from this list?
If so, what do you think is missing?

Is there anything on this list which you think does not represent a Bangladeshi food basket?

Approximately, how much of each item would you buy per week? And how much would it cost?

Who does the shopping in your family?

Where do you go to buy these food items on the list?

How far do you have to travel to buy these items?

What means of transport do you use?

Are you able to buy most of the food items on this list from the shops in your locality?
If no, what food items are not available in your local shops?
Where do you buy these items from?

Food List	Amount (g)	Name Brand	Price (£)
Apples			
Bananas			
Oranges			
Grapes			
Mango			
Jackfruit			
Papaya			
Lychees			
Pomegranate			
Pineapple			
Watermelon			
Lemon			
Satsuma			
Pears			
Fruit juice			
Tinned tomatoes			
Onions			
Garlic			
Ginger			
Green chillies (fresh)			
Fresh tomatoes			
Carrots			
Cabbage			
Frozen peas			
Green beans			

Runner beans			
Lettuce			
Cucumber			
Cauliflower			
Aubergine			
Spinach			
Okra			
Karella			
Pumpkin			
Courgettes			
Coriander leaves (fresh)			
Squash (Lau)			
Leaves of vegetable squash (Lau fatha)			
Marrow			
Radish (Mulla)			
Wholemeal bread			
White bread			
White pasta			
Potatoes (old)			
Potatoes (new)			
Eddoes			
Cornflakes			
Weetabix			
Rice (basmati)			
Rice (long grain, white)			
Rice (brown)			
Chapatti flour			
Semi skimmed milk			
Full fat milk			
Cheese (vegetable based)			
Greek yoghurt			
Fruit yoghurt			
Unsaturated spread			
Vegetable oil			
Sunflower oil			
Paneer			
Lassi			
Ghee			
Eggs			
Vermicelli			
Semolina			
Mackerel			
Herring			
Trout			
Catfish/ Tengra (Bengali fish)			
Kheski (Bengali fish)			
Buwal/ guwal (Bengali fish)			
Mirca (Bengali fish)			
Fabya (Bengali fish)			
Foti (Bengali fish)			
Hilsha (Bengali fish)			
Carp/ Rohu (Bengali fish)			
Dried fish (Bengali fish)			
Tinned sardines			

Salt fish			
Sprats			
Prawns			
Chicken (fresh/frozen)			
Lamb (fresh/frozen)			
Masoor dahl			
Channa dahl			
Chick peas (dried)			
Chick peas (tinned)			
Kidney beans (dried)			

A Mu'min Chowdhury, Cecil Helman, & Trisha Greenhalgh 2000, "Food beliefs and practices among British Bangladeshis with diabetes: implications for health education", *Anthropology & Medicine*, vol. 7, no. 2, pp. 209-226.

A National Statistics publication by Defra 2008, *Family Food: A report on the 2007 Expenditure and Food Survey*, TSO, London.

Abbott T. Tackling obesity head-on. [ABB108/06]. 2006. Canberra, Australian Government: Department of Health and Aging.
Ref Type: Generic

ABC News Online. Abbott shies away from junk food ad ban. 2006. 2-8-2007.
Ref Type: Internet Communication

Acheson D, Barker DJP, Chambers J, Graham H, Marmot M, & Whitehead M 1998, *Independent Inquiry into Inequalities in Health*, The Stationary Office.

ADA 2003, *Position Statement: Vegetarian Diets*, American Dietetic Association (ADA).

Adult Treatment Panel III 2001, "Executive Summary of The Third Report of The National Cholesterol Education Programme (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High blood Cholesterol in Adults (Adult Treatment Panel III).", *JAMA*, vol. 285, pp. 2486-2497.

Agren G 2003, *Sweden's New Public Health Policy. National public health objectives for Sweden.*, Swedish National Institute of Public Health, Stockholm.

Agren G 2004, *The New Swedish Public Health Policy as a tool to improve equity in health*, Swedish National Institute of Public Health, Sweden.

Agren G & Hedin A. The new Swedish public health policy. National Institute of Public Health . 2006. 30-1-2006.
Ref Type: Internet Communication

Ahmed AU & del Ninno C 2002, *Food for Education Programme in Bangladesh: An Evaluation of its Impact on Educational Attainment and Food Security.*, Food Consumption and Nutrition Division of the International Food Policy Research Institute, Washington, USA, FCND Discussion Paper No. 138.

Aicken C, Arai L, & Roberts H 2008, *Schemes to promote healthy weight among obese and overweight children in England*, London: EPPI Centre, Social Science Research Unit, Institute of Education, University of London., EPPI-Centre report no. 1607.

Airhihenbuwa CO 1995, "Developing culturally appropriate health programs," in *Health and culture: beyond the Western paradigm*, Sage Publications, London, pp. 25-43.

Alberti KGMM, Zimmet P, & Shaw J for the IDF Epidemiology Task Force Consensus Group 2005, "The metabolic syndrome - a new world definition.", *The Lancet*, vol. 366, no. September 24, pp. 1059-1062.

Alexandratos N 2006, "The Mediterranean diet in a world context", *Public Health Nutrition*, vol. 9, no. 1, pp. 111-117.

Ali J 2000, *Changing Identity Constructions among Bangladeshi Muslims in Britian*, Centre for the Study of Islam and Christian-Muslim Relations, The University of Birmingham, 6, February.

American Diabetes Association 2002, "Position statement, Evidence-Based Nutrition Principles and Recommendations for the Treatment and Prevention of Diabetes and Related Complications.", *Diabetes Care* p. S50-S60.

Anderson AS, Bush H, Lean M, Bradby H, Williams R, & Lea E 2005, "Evolution of atherogenic diets in South Asian and Italian women after migration to a higher risk region", *Journal of Human Nutrition & Dietetics*, vol. 18, no. 1, p. 33.

Atkinson MA & Eisenbarth GS 2001, "Type 1 diabetes: new perspectives on disease pathogenesis and treatment", *The Lancet*, vol. 358, no. July 21, pp. 221-229.

Augustin L S, Franceschi S, Jenkins DJA, Kendall CWC, & La Vecchia C 2002, "Glycaemic index in chronic disease: a review.", *European Journal of Clinical Nutrition*, vol. 56, pp. 1049-1071.

Australian Government Department of Health and Ageing 2003, *Healthy Weight 2008, Australia's Future: The national action agenda for children and young people and their families* Canberra.

Australian Government Department of Health and Aging, National Health and Medical Research Council, & Ministry of Health in New Zealand 2006, *Nutrient Reference Values for Australia and New Zealand: Including recommended dietary intakes*, NHMRC Publications.

Australian Human Rights and Equal Opportunity Commission: Aboriginal and Torres Straight Islander Social Justice. A statistical overview of Aboriginal and Torres Strait Islander peoples in Australia. Human Rights and Equal Opportunity Commission . 2005. 27-1-2006.
Ref Type: Internet Communication

Bajekal M, Becher H, Boreham R, Brookes M, Calderwood L, Erens B, Falaschetti E, Hirani V, Karlsen S, Kelly Y, Korovessis C, Laiho J, McManus S, McMunn A, Nazroo J, Primatesta P, Prior G, Purdon S, Tait C, & Teers R 2001, *Health Survey for England - The Health of Minority Ethnic Groups '99*, The Stationary Office.

Balkau B & Charles MA 1998, "Comment on the provisional report from the WHO consultation. European Group for the Study of Insulin Resistance (EGIR).", *Diabetic Medicine*, vol. 16, pp. 442-443.

Bangladesh Bureau of statistics 2003, *2000 Statistical Yearbook of Bangladesh; Dhaka*, Overseas Development institute, London, Working Paper 231.

Bangladesh Bureau of statistics 2009, *2008 Statistical Yearbook of Bangladesh*, Government of the People's Republic of Bangladesh, Dhaka, Bangaldesh, 28th Edition.

Bangladesh Bureau of Statistics, S. d. 2007, *Key Findings of the Maternal and Child Nutrition Survey of Bangladesh of 2005*, Ministry of Planning, Government of the People's Republic of Bangladesh, Dhaka.

Bangladesh Embassy. Bangladesh Map. 2011.
Ref Type: Map

Bangladesh High Commission UK. Website. 2003. 30-7-2005.
Ref Type: Internet Communication

Barker DJP 2004, "The Developmental Origins of Adult Disease", *Journal of the American College of Nutrition*, vol. 23, no. 6, pp. 588S-595S.

Barker DJP 1995, "Fetal origins of coronary heart disease", *BMJ*, vol. 311, pp. 213-219.

Barker DJP, Eriksson JG, Forsen T, & Osmond C 2002, "Fetal origins of adult disease: strength of effects and biological basis", *International Journal of Epidemiology*, vol. 31, pp. 1235-1239.

Barker DJP, Hales CN, Fall CHD, Osmond C, Phipps K, & Clark PMS 1993, "Type 2 (Non-insulin-dependent) Diabetes Mellitus, Hypertension and Hyperlipidaemia (Syndrone X): Relation to Reduced Fetal Growth.", *Diabetologia*, vol. 36, pp. 62-67.

Barker DJP (ed.) 2001, *Type 2 Diabetes: The Thrifty Phenotype* Oxford University Press.

Basiotis PP, Welsh SO, Cronin FJ, Kelsay JL, & Mertz W 1987, "Number of days of food intake records required to estimate individual and group nutrient intakes with defined confidence.", *The Journal of Nutrition*, vol. 117, no. 9, pp. 1638-1641.

Baum F 2002, *The New Public Health*, Second edn, Oxford University Press, Oxford.

BBC news. State multiculturalism has failed, says David Cameron. 2011.
Ref Type: Internet Communication

BBS-UNICEF 2007, *Multiple Indicators Clusters Survey Bangladesh 2006, Key findings* Dhaka.

Beardsworth A & Keil T 1997, *Sociology on the menu: an invitation to the study of food and society* Routledge, London.

Beattie A 1991, "Knowledge and control in health promotion: a test case for social policy and social theory London.," in *The sociology of the health service, 1994*, Gabe J, Calnan M, & Bury M, eds., Routledge, London.

Beaudry M, Hamelin A-M, & Delisle H 2004, "Public Nutrition: An emerging Paradigm", *Canadian Journal of Public Health*, vol. 95, no. 5, pp. 375-377.

Beishon S, Modood T, & Virdee S 1998, *Ethnic minority families*, Policy Studies Institute.

Bell AC, Ge K, & Popkin BM 2002, "The Road to Obesity or the Path to Prevention: Motorized Transportation and Obesity in China", *Obesity Research*, vol. 10, no. 4, pp. 277-283.

Bell S & Sears B 2003, "Low-glycaemic-load diets: Impact on obesity and chronic diseases.", *Critical reviews in food science and nutrition*, vol. 43, no. 4, p. 357.

Ben-Shlomo Y & Kuh D 2002, "A life course approach to chronic disease epidemiology: conceptual models, empirical challenges and interdisciplinary perspectives", *International Journal of Epidemiology*, vol. 31, pp. 285-293.

Ben-Shlomo Y, White IR, & Marmot M 1996, "Does the variation in the socioeconomic characteristics of an area affect mortality?", *BMJ*, vol. 312, no. 1013, p. 1014.

Berthoud R 1998, *Incomes of Ethnic Minorities. ISER Report 98-1*, University of Essex, Institute for Social and Economic Research, Colchester.

Bhopal K 2001, "Researching South Asian Women: issues of sameness and difference in the research process", *Journal of Gender Studies*, vol. 10, no. 3, pp. 279-286.

Bhopal R 1997, "Is research into ethnicity and health racist, unsound, or important science?", *BMJ*, vol. 314, p. 1751.

BMRB Social Research 2009, *Comprehension and use of UK nutrition signpost labelling schemes*, Food Standards Agency.

Botcherby S & Hurrell K 2004, *Ethnic minority women and men in Britain*, Equal Opportunities Commission.

Bowyer S, Caraher M, Eilbert K, & Carr-Hill RA 2008, "Shopping for Food: Lessons from a London Borough", *British Food Journal*, vol. 111, no. 5, pp. 452-474.

Bray GA, Nielsen SJ, & Popkin BM 2004, "Consumption of high-fructose corn syrup in beverages may play a role in the epidemic of obesity", *American Journal clinical Nutrition*, vol. 79, pp. 537-543.

Bryman A 2004, *Social Research Methods: second edition.* Oxford University Press, Oxford.

Cabinet Office. Building the Big Society. 18-5-2010.
Ref Type: Generic

Campbell JH & Perkins P 1988, "Transgenerational effects of drug and hormonal treatments in mammals: a review of observations and ideas.", *Progress in brain research*, vol. 73, pp. 535-553.

Cannon G 2005, "Out of the Box: The formula for obesity", *Public Health Nutrition*, vol. 82, no. 2, p. 113.

Caplan P 1997, "Approaches to the study of food, health and identity," in *Food, health and identity*, Pat Caplan, ed., Routledge, London, pp. 1-31.

Caplan P, Keane A, Willetts A, & Williams J 1998, "Studying food choice in its social and cultural contexts: approaches from a social science and anthropological perspective.," in *The Nation's Diet: The social science of food choice.*, Murcott A, ed..

Caraher M. Presentation: Food poverty and inequality: The growth of hunger in the UK. 2010. City University London.
Ref Type: Generic

Caraher M & Carr-Hill RA 2006, "Taxation and public health: 'Sin taxes' or structured approaches," in *Macrosocial determinants of population health*, Galea S, ed., Springer Media.

Caraher M & Coveney J 2003, "Public Health Nutrition and Food Policy", *Public Health Nutrition*, vol. 75, no. 5, pp. 591-598.

Caraher M & Cowburn G 2005, "Taxing food: implications for public health nutrition", *Public Health Nutrition*, vol. 8, no. 8, pp. 1242-1249.

Caraher M & Lang T "The relationship between evidence and policy: A case study of the regulation of advertising aimed at children", in *City University Research Half-Day Event*.

Caraher M, C. J. a. L. T. 2004, "*Food, Health and Globalisation: is health promotion still relevant?*" in *Promoting Health: global issues and perspectives*, Scriven A and Garman S, ed., Sage Publishing, London (In Press).

Carey S 2004, *Curry Capital: The Restaurant Sector in London's Brick Lane*, Institute of Community Studies, London.

Carlos PostonII WS & Foreyt JP 1999, "Obesity is an environmental issue", *Atherosclerosis*, vol. 146, no. 2, pp. 201-209.

Carr-Hill RA 1989, "Assumptions of the QALY procedure", *Social Science & Medicine*, vol. 29, no. 3, pp. 469-477.

CDC. Clinical Growth Charts. U.S.Department of Health and Human Services: Centres for Disease Control and Prevention . 9-12-2005. 3-5-2006.
Ref Type: Internet Communication

CDC. Overweight and Obesity: Obesity Trends: U.S. Obesity Trends 1985–2004. Department of Health and Human Services: Centers for Disease Control and Prevention . 2006. 25-4-2006.
Ref Type: Internet Communication

Census 2001. Overseas-born. National Statistics Online . 2004. 16-8-2006.
Ref Type: Internet Communication

Chadwick R 2003, "Nutrigenomics, individualism and public health", in *The Summer Meeting of the Nutrition Society*, Nutrition Society, London, pp. 161-166.

Chakravarthy MV & Booth FW 2004, "Eating, exercise, and "thrifty" genotypes: connecting the dots toward an evolutionary understanding of modern chronic diseases.", *Journal of Applied Physiology*, vol. 96, pp. 3-10.

Chandola T 2001, "Ethnic and class differences in health in relation to British South Asians: using the new National Statistics Socio-economic Classification", *Social Science and Medicine*, vol. 52, pp. 1285-1296.

Chaturvedi N 2001, "Ethnicity as an epidemiological determinant - crudely racist or crucially important?", *International Journal of Epidemiology*, vol. 30, pp. 925-927.

Chaturvedi N, Jarrett J, Shipley MJ, & Fuller JH 1998, "Socioeconomic gradient in morbidity and mortality in people with diabetes: cohort study findings from the Whitehall study and the WHO multinational study of vascular disease in diabetes", *BMJ*, vol. 316, pp. 100-105.

Chaudhary A. Health, Environment & Sustainable Living Seminars:Challenges and Opportunities. 19-7-2005. London, Asian Health Network.
Ref Type: Generic

Chowdhury AM, Helman C, & Greenhalgh T 2000, " Food beliefs and practices among British Bangladeshis with diabetes: implications for health education", *Anthropology & Medicine*, vol. 7, no. 2, pp. 209-226.

Collingham L 2005, *Curry: a biography* Chatto & Windus, London.

Commonwealth of Australia 1996, *Australia's Health 1996: The fifth biennial health report of the Australian Institute of Health and Welfare*, Australian Government Publishing Service, Canberra.

Connections: Hidden British history. Histories: Asians: Early Asian Settlers. 2006. 3-1-0006.
Ref Type: Internet Communication

Connolly V, Unwin N, Sherriff P, Bilous R, & Kelly W 2000, "Diabetes prevalence and socioeconomic status: a population based study showing increased prevalence of type 2 diabetes mellitus in deprived areas", *Journal of Epidemiology and Community Health*, vol. 54, pp. 173-177.

Cooper RS 2003, "Race, genes and health—new wine in old bottles?", *International Journal of Epidemiology*, vol. 32, pp. 23-25.

Cordain L 1999, "Cereal Grains: Humanity's double edged sword", *World Review of Nutrition and Diet*, vol. 84, pp. 19-73.

Cordain L 2005, *Origins and Evolution of the Western diet*, Diet and Human Evolution: What are the Health Implications for the 21st Century?, Meat & Livestock Australia, hosted by: DAA NSW Branch and Nutrition Society of Australia.

Cordain L, Boyd Eaton S, Sebastian A, Mann N, Lindeberg S, Watkins B, O'Keefe JH, & Brand-Miller J 2005, "Origins and evolution of the Western diet: health implications for the 21st century", *American Journal of Clinical Nutrition*, vol. 81, pp. 341-354.

Cordain L, Brand-Miller J, Eaton SB, Mann N, Holt SHA, & Speth JD 2000, "Plant-animal subsistence ratios and macronutrient energy estimations in worldwide hunter-gatherer diets", *American Journal of Clinical Nutrition*, vol. 71, pp. 682-692.

Cordain L, Eades MR, & Eades MD 2003, "Hyperinsulinemic diseases of civilisation: more than just syndrome X", *Comparative Biochemistry and Physiology Part A*, vol. 136, pp. 95-112.

Cordain L, Eaton SB, Brand-Miller J, Mann N, & Hill K 2002, "The paradoxical nature of hunter-gatherer diets: meat-based, yet non-atherogenic", *European Journal of Clinical Nutrition*, vol. 56(suppl), p. S42-S52.

Coren G. Shouldn't we tax fatties? Daily Mail . 2006a. 9-7-2006a.
Ref Type: Newspaper

Coren G 2006b, *Tax the fat*, MORE4. Documentaries.

Corwin EJ 2004, "The Concept of Epigenetics and Its Role in the Development of Cardiovascular Disease: Commentary on "New and Emerging Theories of Cardiovascular Disease"", *Biological Research for Nursing*, vol. 6, no. 1, pp. 11-16.

Cox DN & Anderson AS 2004, "Food Choice," in *Public Health Nutrition*, Gibney MJ et al., eds., Blackwell Science, Oxford, pp. 146-166.

Crombie IK, Irvine L, Elliott L, & Wallace H 2005a, *Public Health Policy to Tackle Obesity: An international Perspective*, University of Dundee; NHS Health Scotland, Dundee.

Crombie IK, Irvine L, Elliott L, & Wallace H 2005b, *Tackling the obesity epidemic: policies in 14 developed countries*, University of Dundee; NHS Health Scotland, Report Number 2.

CSDH 2008, *Closing the gap in a generation: Health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health.*, World Health Organisation, Geneva.

Cutler D, Glaeser E, & Shapiro J 2003, "Why have Americans become More Obese? NBER Working Paper No. 9446", *Journal of Economic Perspectives*, vol. 17, no. 3, Summer, pp. 93-118.

Dalmeny K, Hanna E, & Lobstein T 2003b, *Broadcasting bad health: why food marketing to children needs to be controlled.*, International Association of Consumer Food Organisations (IACFO), London.

Dalmeny K, Hanna E, & Lobstein T 2003a, *Analysis based on GDP for 2002 from the World Bank Statistical Indicator*, In: Broadcasting bad health: Why food marketing to children needs to be controlled. The International Association of Consumer Food Organizations (IACFO).

Darnton-Hill I, Margetts B, & Deckelbaum R 2004, *Public health nutrition and genetics: implications for nutrition policy and promotion*, Nutrition Society, 63.

Davey Smith G 1996b, "Income inequality and mortality: why are they related?", *BMJ*, vol. 312, no. 20 April, pp. 987-988.

Davey Smith G 1996a, "Income inequality and mortality: why are they related?", *BMJ*, vol. 312, no. 20 April, p. 3.

Davey Smith G, Neaton JD, & Stamler J 1996, "Socioeconomic differentials in mortality risk among men screened for the multiple risk factor intervention trial. I. White men.", *American Journal of Public Health*, vol. 86, no. 4, pp. 486-496.

Davis S "Which Choice? Can the governments choice agenda deliver for everyone?", in *Getting Personal: shifting responsibilities for dietary health. Launch symposium.*.

de Courten M, Bennett PH, Tuomilehto J, & Zimmet P 1997, "Epidemiology of NIDDM in Non-Europids.," in *International Textbook of Diabetes Mellitus*, 2nd edn. edn, Alberti KGMM, Zimmet P, & DeFronzo RA, eds., John Wiley, Chichester, pp. 143-170.

de Onis M, Garza C, Victoria CG, Onyango AW, Frongillo EA, & Martines J 2004, "The WHO Multicentre Growth Reference Study: Planning, study design and methodology", *Food and Nutrition Bulletin*, vol. 25, no. 1 (supplement 1), p. S1-S89.

DeFronzo RA, Bonadonna RC, & Ferrannini E 1997, "Pathogenesis of NIDDM," in *International Textbook of Diabetes Mellitus*, 2nd edn, Alberti KGMM, Zimmet P, & DeFronzo RA, eds., John Wiley, Chichester, pp. 635-712.

Dench G, Gavron K, & Young M. The New East End: Kinship, Race and Conflict. 2006. Great Britain, Profile Books Ltd.
Ref Type: Serial (Book,Monograph)

Denzin NK & Lincoln YS 2000, *Handbook of Qualitative Research*, Second edn, Sage Publications Ltd, London.

Department for Environment, F. a. R. A. D. S. S. D. S. 1999, *National Food Survey 1998: annual report on food expenditure, consumption and nutrient intakes.*, HMSO, London.

Department of Health 2000, *Coronary heart disease: national service framework for coronary heart disease - modern standards and service models*, DoH.

Department of Health 2004b, *Department of Health resource accounts 2002-03*, The Stationary Office, London.

Department of Health 2003a, *Our inheritance, our future: realising the potential of genetics in the NHS*, The Stationary Office, London.

Department of Health 2008a, *Changes in food and drink advertising and promotion to children. A report outlining the changes in the nature and balance of food and drink advertising and promotion to children, from January 2003 to December 2007.*

Department of Health 2004a, *Choosing Health: Making healthy choices easier*, HM Government; DoH - NHS, The Stationary Office.

Department of Health 2001a, *Health Survey for England 1999: the health of minority ethnic groups*.

Department of Health. Healthy Weight, Healthy Lives: guidance for local areas. 18-3-2008d. HM Government.
Ref Type: Generic

Department of Health. Healthy Weight, Healthy Lives: A Cross Government Strategy for England. -56. 23-1-2008c. HM Government.
Ref Type: Generic

Department of Health 2003b, *Tackling Health Inequalities: A Programme for Action.*, Department of Health, London.

Department of Health 2002, *Tackling Health Inequalities: The Results of the Consultation Exercise*, Department of Health, London.

Department of Health 2001b, *National Service Framework for Diabetes: Standards.*, DoH, London.

Department of Health 2008b, *Health Inequalities: progress and next steps*.

Department of Health. UK-WHO Growth Charts - birth to 4 years. 2009. 8-11-0009.
Ref Type: Internet Communication

Department of Health and Human Services (HHS) and the Department of Agriculture (USDA) 2005, *Dietary Guidelines for Americans*.

Department of Public Health 2007, *Diabetes: Summary of intelligence*, Tower Hamlets Primary Care Trust.

DeRose L, Messer E, & Millman S 1998, *Who's hungry? And how do we know? Food shortage, poverty, and deprivation* United Nations University Press, TOKYO - NEW YORK - PARIS.

Diabetes UK. Diabetes prevalence 2008. 2008. 22-8-0009.
Ref Type: Internet Communication

Diamond J 2003, "The double puzzle of diabetes.", *Nature*, vol. 423, pp. 599-602.

Diliberti N, Bordi PL, Conklin MT, Roe LS, & Rolls BJ 2004, "Increased Portion size Leads to Increased Energy Intake in a Restaurant Meal", *Obesity Research*, vol. 12, no. 3, p. 562568.

Dindyal S & Dindyal S 2004, "How Personal Factors, Including Culture And Ethnicity, Affect The Choices And Selection Of Food We Make", *The Internet Journal of Third World Medicine*, vol. 1, no. 2.

Dobbelsteyn CJ, Joffres MR, MacLean DR, & Flowerdew G 2001, "A comparative evaluation of waist circumference, waist-to-hip ratio and body mass index as indicators of cardiovascular risk factors. The Canadian Heart Health Surveys", *International journal of Obesity*, vol. 25, no. 1, pp. 652-661.

Donnelley R. Preventing overweight and obesity in Scotland. A route map towards healthy weight. 2010. The Scottish Government.
Ref Type: Generic

Dowler E, Blair A, Rex D, & Grundy C 2001, *Measuring Access to Health Food in Sandwell*, The University of Warwick. Sandwell Health Action Zone., Final report.

Dowler E & Calvert C 1995, *Nutrition and Diet in Lone-parent Families in London*, Family Policy Studies Centre.

Dowler L. Nutrigenomics. Meeting: BSA Food Study Group. 2006. Food Ethics Council.
Ref Type: Generic

Drewnowski A & Popkin B 1997, "The nutrition transition: new trends in the global diet", *Nutrition Reviews*, vol. 55, no. 2, pp. 31-43.

Duff, D. 2004, "Setting the Menu: Dietary Guidelines, Corporate Interests, and Nutrition Policy," in *A Sociology of Food & Nutrition: The Social Appetite*, 2nd edn, J. Germov & L. Williams, eds., Oxford University Press, Oxford, pp. 148-169.

DWP - Department for Work and Pensions 2009, *Households Below Average Income: An analysis of the income distribution 1994/95 – 2007/08*, National Statistics.

Eade J 1989, *The Politics of Community: The Bangladeshi Community in East London* Avebury, Gower Publishing Group, Aldershot.

Eade J & Garbin D 2002, "Changing Narratives of Violence, Struggle and Resistance: Bangladeshis and the Competition for Resources in the Global City", *Oxford Development Studies*, vol. 30, no. 2, June, pp. 137-151.

Eade J, Vamplew T, & Peach C 1996, "The Bangladeshis: the encapsulated community.," in *Ethnicity in the 1991 Census, vol 2, The Ethnic Minority Populations of Britain.London: Office for National Statistics*, Peach C, ed., pp. 150-160.

Eade J. 1997, "Keeping the options open: Bangladeshis in a global city.," in *London: the promised land? The migrant experience in a global city.*, Kershen A, ed., pp. 91-109.

Eaton SB, Konner M, & Shostak M 1988, "Stone agers in the fast lane: chronic degenerative diseases in evolutionary perspective.", *American Journal of Medicine*, vol. 84, pp. 739-749.

Eckel RH, Grundy SM, & Zimmet P 2005, "The metabolic syndrome", *The Lancet*, vol. 365, no. April 16, pp. 1415-1428.

Ecob R & Williams R 1991, "Sampling Asian minorities to assess health and welfare", *Journal of Epidemiology and Community Health*, vol. 45, pp. 93-101.

Egger G & Swinburn B 1997, "An "ecological" approach to the obesity pandemic", *BMJ*, vol. 315, pp. 477-480.

Epping-Jordan JE, Galea G, Tukuitonga C, & Beaglehole R 2005, "Preventing chronic diseases: taking stepwise action.", *Lancet*, vol. Published online 5th October.

Eriksson JG, Forsen T, Jaddoe VWV, Osmond C, & Barker DJP 2002, "Effects of size at birth and childhood growth on the insulin resistance syndrome in elderly individuals", *Diabetologia*, vol. 45, pp. 342-348.

Esposito N 2001, "From Meaning to Meaning: The Influence of Translation Techniques on Non-English Focus Group Research", *Qualitative Health Research*, vol. 11, no. 4, pp. 568-579.

Europa. Nutrition and health claims. 2008. Summaries of EU Regulations. 28-4-2010.
Ref Type: Internet Communication

European Food Information Council (EUFIC). Changing Food Patterns. 2005. 25-4-2006.
Ref Type: Internet Communication

Evans JMM, Newton RW, Ruta DA, MacDonald TM, & Morris AD 2000, "Socio-economic status, obesity and prevalence of Type 1 and Type 2 diabetes Mellitus", *Diabetic Medicine*, vol. 17, no. 6, p. 478.

Exworthy M, Stuart M, Blane D, & Marmot M 2003, *Tackling health inequalities since the Acheson Inquiry*, The Policy Press in association with JRF.

Fade S 2003, "Communicating and judging the quality of qualitative research: the need for a new language", *Journal of Human Nutrition and Dietetics*, vol. 16, pp. 139-149.

Famine Inquiry Commission 1945, India.

FAO 1996, *World Food Summit 1996: Technical Papers, Volumes 1-3*, In: Food Security and the Millenium Development Goal on Hunger in Asia. Overseas Development Institute, December 2003, London, Working Paper 231.

FAO 1999, *Nutrition Country Profiles - Bangladesh*, Food and Agricultural Organisation of the United Nations, Rome.

FAO 2005, *The State of Food Security in the World 2005: Eradicating world hunger – key to achieving the Millennium Development Goals*, Food and Agricultural Organisation of the United Nations, Italy.

FAO 2008, *The State of Food Secutiry in the World 2008: High prices and food security - threats and opportunities*, Food and Agriculture Organisation on the United Nations, Rome, Italy.

Faruque ASG, Shamsir Ahmed AM, Ahmed T, Munirul Islam M, Hossain I, Roy SK, Alam N, Kabir I, & Sack D 2008, "Nutrition: Basis for Healthy Children and Mothers in Bangladesh", *Journal of Health and Population Nutrition*, vol. 26, no. 3, pp. 325-339.

Fieldhouse P 1995, *Food and Nutrition: Customs and culture.*, Second edn, Chapman & Hall, London.

Flick U, von Kardorff E, & Steinke I 2004, *A Companion to Qualitative Research* Sage Publication Ltd, London.

Food Ethics Council 2006, *Behaviour change by getting personal. Can 'personalised nutrition' help make good health the norm? A report of a roundtable held at ippr*, Food Ethics Council, Brighton.

Food Ethics Council 2005, *Getting Personal: shifting responsibilities for dietary health*, The Food Ethics Council, Brighton, UK.

Food Standards Agency 2000, *UK Nutrient and Food Based Dietary Guidelines*.

Food Standards Agency. The eatwell plate. 2007. 17-1-2008.
Ref Type: Internet Communication

Foresight 2007, *Tackling Obesities: Future Choices - Project report*, Government Office for Science.

Freedhoff Y & Hebert PC 2011, "Partnership between health organizations and the food industry risk derailing public health nutrition", *CMAJ*.

Freidl J & Pfeiffer JE 1977, *Anthropology: The Study of People* Harpers College Press, New York.

Friends of the Earth - Bite Back. WTO hands of our food: US fails to win transatlantic GM trade dispute. 2006. 19-7-2006.
Ref Type: Internet Communication

Gardner K 2002, *Age, narrative and migration.* Berg, Oxford.

Gardner K. 2005, *Identity, age and masculinity amongst Bengali elders in East London. A question of identity.* Avebury, Aldershot.

Gardner MJ, Winter PD, & Barker DJP 1984, *Atlas of Mortality from Selected Diseases in England and Wales, 1968-1978* Wiley, Chichester.

Germov J & Williams L 2004, *A Sociology of Food and Nutrition: The social appetitie*, Second edn, Oxford University Press.

Gerrior S & Bente I 2002, *Nutrient Content of the US Food Supply, 1909-1999. A Summary Report*, U.S.D.A Centre for Nutrition Policy and Promotion, 55.

Ghosh B K. Rising Consumption Inequality in Bangladesh. 2007. 5-8-2011.
Ref Type: Unpublished Work

Gielen A C & McDonald E M 2002, "Using the PRECEDE-PROCEED planning model to apply health behaviour theories," in *Health Behaviour and Health Edcuation; Theory, Research and Practice*, 3rd edn, Glanz K, Rimer B K, & Lewis F M, eds., Jossey-Bass, San Francisco, pp. 409-436.

Gill GJ 2003, *Bangladeshi Case Study (Annex 2)*, Overseas Development Institute, London, Working paper 231.

Gill GJ, Farrington J, Anderson E, Luttrell C, Conway T, Saxena NC, & Slater R 2003, *Food Security and the Millenium Development Goal on Hunger in Asia*, Overseas Development Institute, London, Working Paper 231.

Gill O & Sharma N 2004, *Food Poverty in the School Holidays*, Barnardo's South West.

Gilmore AB, Savell E, & Collin J 2011, "Public health, corporations and the New Responsibility Deal: promoting partnerships with vectors of disease?", *Journal of Public Health Advance Access* pp. 1-3.

Government of Bangladesh 1998, *Fifth Five Year Plan (1997-2002)*, Planning Commission, Ministry of Planning, Government of the People's Republic of Bangladesh, Dhaka.

Grace C, Begum R, Subhani S, Kopelman P, & Greenhalgh T 2008, "Prevention of type 2 diabetes in British Bangladeshis: qualitative study of community, religious, and professional perspectives.", *BMJ*, vol. 337, no. a1931.

Greenhalgh PM, Helman A, & Chowdhury A M 1998, "Health beliefs and folk models of diabetes in British Bangladeshis: a qualitative study.", *British Medical Journal*, vol. 316, no. 28, pp. 978-983.

Greenhalgh T 1997, "Diabetes in British South Asians: Nature, Nurture, and Culture", *Diabetic Medicine*, vol. 14, no. 1, pp. 10-18.

Greenhalgh T, Helman C, & Chowdhury AM 1995, "Health beliefs and folk models of diabetes in British Bangladeshis: a qualitative study", *BMJ*, vol. 316, pp. 978-983.

Haddad L 2003, *What can food policy do to redirect the diet transition?*, International Food Policy Research Institute: Food Consumption and Nutrition Division, Washington, USA, FCNDP No. 165.

Hales CN & Barker DJP 1992, "Type 2 (non-insulin-dependent) diabetes mellitus: The thrifty phenotype hypothesis.", *Diabetologia*, vol. 35, pp. 595-601.

Hanson RL, Imperatore G, Bennett PH, & Knowler WC 2002, "Components of the "metabolic syndrome" and incidence of type 2 diabetes.", *Diabetes*, vol. 51, pp. 3120-3127.

Harding S & Maxwell R 1997, "Differences in the mortality of migrants.," in *Health inequalities: decennial supplement: DS Series no.15.*, Drever F & Whitehead M, eds., The Stationary Office, London.

Harris MI 1993, "Undiagnosed NIDDM; clinical and public health issues.", *Diabetes Care*, vol. 16, pp. 642-652.

Hart C 2001, *Doing a Literature Search: A Comprehensive Guide for the Social Sciences.* Sage Publications Ltd, London.

Hart C 1998, *Doing a Literature Review: Releasing the social Science Research Imagination.* Sage Publications Ltd, London.

Hastings G, Stead M, McDermott L, Forsyth A, MacKintosh A, Rayner M, Godfrey C, Caraher M, & Angus K 2003, *Review of the research on the effects of food promotion to children*, Food Standards Agency, London.

Health Education Authority 1992, *Black and ethnic minority health and lifestyle survey*.

Hill JO, Wyatt HR, Reed GW, & Peters JC 2003, "Obesity and the Environment: Where Do We Go from Here?", *Science*, vol. 299, no. 5608, pp. 853-855.

Hill SE 1990, *More Than Rice and Peas: Guidelines to improve food provision for Black and Ethnic Minorities in Britian*, The Food Commission, London.

Hillier S 1991, "The health and health care of ethnic minority groups," in *Sociology as applied to medicine*, 3rd edn, Scrambler G, ed., Bailliere Tindall, London, pp. 146-159.

Hills J 1998, *Income and Wealth: The latest Evidence*, Joseph Rowntree Foundation.

Hirani V & Primatesta P 2001, *Eating Habits*, The Stationary Office.

Hitchman C, Christie I, Harrison M, & Lang T 2002, *Inconvenience food: The struggle to eat well on a low income* Demos.

Hoffman DJ 2001, *Obesity in developing countries: causes and implications*, FAO: Economic and Social Department, FAO Corporate Document Repository.

Hoffman DJ, Sawaya AL, Coward WA, Wright A, Paula A Martins, de Nascimento C, Tucker KL, & Roberts SB 2000a, "Energy expenditure of stunted and nonstunted boys and girls living in the shantytowns of São Paulo, Brazil", *American Journal of Clinical Nutrition*, vol. 72, no. October, pp. 1025-1031.

Hoffman DJ, Sawaya AL, Verreschi I, Tucker KL, & Roberts SB 2000b, "Why are nutritionally stunted children at increased risk of obesity? Studies of metabolic rate and fat oxidation in shantytown children from São Paulo, Brazil", *American Journal of Clinical Nutrition*, vol. 72, no. September, pp. 702-707.

Home Affairs Committee 1986, *Bangladeshi's in Britain*, Her Majesty's Stationary Office, London, 1.

Hsin-Chun Tsai J, Choe JH, Mu Chen Lim J, Acorda E, Chan NL, Taylor VM, & Tu S-P 2004, "Developing culturally competent health knowledge: Issues of data analysis of cross-cultural,

cross language qualitative research", *International Journal of Qualitative Methods*, vol. 3, no. 4, pp. 1-14.

Hu G, Pekkarinen H, Hänninen O, Yu Z, Tian H, Guo Z, & Nissinen A 2002, "Physical activity during leisure and commuting in Tianjin, China", *Bulletin of the World Health Organization (online)*, vol. 80, no. 12, pp. 933-938.

Hurt LS, Ronsmans C, & Saha S 2004, "Effects of education and other socioeconomic factors on middle age mortality in rural Bangladesh", *BMJ*, vol. 58, pp. 315-320.

Ibrahim SA, Thomas SB, & Fine MJ 2003, "Achieving Health Equity: An Incremental Journey", *American Journal of Public Health*, vol. 93, no. 10, pp. 1619-1621.

IFPRI 2006, *Food for Education: sustainable options for ending poverty and hunger*, International Food policy Research Institute.

International Diabetes Federation. e-Atlas. 2005a. 2-11-2006a.
Ref Type: Internet Communication

International Diabetes Federation 2005b, *The IDF consensus worldwide definition of the metabolic syndrome.*

International Diabetes Federation 2003, *Diabetes Atlas: Executive summary*, International Diabetes Federation, Belgium, 2nd edition.

International Diabetes Federation. Diabetes Atlas, third edition. 2006. 22-8-0009.
Ref Type: Internet Communication

International Food Policy Research Institute 2006, *Understanding the Links between Agriculture and Health*, IFPRI, 13.

Ismail AA, Beeching NJ, Gill GV, & Bellis MA 1999, "Capture-recapture-adjusted prevalence rates of type 2 diabtes are related to social deprivation.", *QJM*, vol. 93, no. 707, p. 710.

Isomaa B, Almgren P, Tuomi T, & et al. 2001, "Cardiovasular morbidity and mortality associated with the metabolic syndrome.", *Diabetes Care*, vol. 24, pp. 683-689.

Jablonka E & Lamb MJ 2002, "The Changing Concept of Epigenetics", *Annals New York Academy of Sciences*, vol. 981, pp. 82-96.

James P. The societal and nutritional dimensions of the obesity epidemic. 30-11-2005.
Ref Type: Unpublished Work

James P, Nelson M, Ralph A, & Leather S 1997, "The contribution of nutrition to inequalities in health", *British Medical Journal*, vol. 314, no. 24 May, pp. 1545-1549.

Jenkins DJA, Kendall CWC, Augustin LSA, & et al 2002, "Glycaemic index: overview of implications in health and disease. ", *American Journal of Clinical Nutrition*, vol. 76 (suppl), pp. 266S-273S.

Johnson R K 2002, "Dietary Intake - How Do We Measure What People Are *Really* Eating?", *Obesity Research*, vol. 10, no. Suppl.1, pp. 63S-68S.

Johnson R K, Soultanakas RP, & Matthews D E 1998, "Literacy and body fatness are associated with underreporting of energy intake in US low-income women using the multiple-pass 24-hour recall: a doubly labeled water study.", *Journal of the American Dietetic Association*, vol. 98, no. 10, pp. 1136-1140.

Joint Health Surveys Unit, N. C. f. S. R. & UCL, D. o. E. a. P. H. 2009, *Health Survey for England 2007: Latest trends.*, The NHS Information Centre; National Statistics.

Joint Health Surveys Unit, N. C. f. S. R. a. U. 2008, *Health Survey for England 2006: Cardiovascular disease and risk factors*, The Information Centre.

Jones R 1995, "Why do qualitative research?", *BMJ*, vol. 311, p. 2.

Jones T 1993, *Britain's Ethnic Minorities*, Policy Studies Institute, London.

JRF: Joseph Rowntree Foundation 2002, *The needs of excluded young people in multi-cultural communities*, Joseph Rowntree Foundation, York.

JRF: Joseph Rowntree Foundation 1994, *The provision of social security benefits to minority ethnic communities.*, Joseph Rowntree Foundation, York, 59.

JRF: Joseph Rowntree Foundation 2000, *Ethnic diversity, neighbourhoods and housing*, Joseph Rowntree Foundation, York.

JRF: Joseph Rowntree Foundation 1998, *Ethnic minorities in the inner city*, Joseph Rowntree Foundation, York.

JRF: Joseph Rowntree Foundation 2005, *Policies towards poverty, inequality and exclusion since 1997*.

Kabeer N 2000, *The power to choose: Bangladeshi women and labour market decisions in London and Dhaka* Verso, London.

Kapborg I & Bertero C 2002, "Using an interpreter in qualitative interviews: does it threaten validity?", *Nursing Inquiry*, vol. 9, no. 1, pp. 52-56.

Kaplan GA, Pamuck ER, Lynch JW, Cohen RD, & Balfour JL 1996a, "Inequality in income and mortality in the United States: analysis of mortality and potential pathways", *BMJ*, vol. 312, p. 5.

Kaplan GA, Pamuck ER, Lynch JW, Cohen RD, & Balfour JL 1996b, "Inequality in income and mortality in the United States: analysis of mortality and potential pathways", *BMJ*, vol. 312, pp. 999-1003.

Kennedy S, Kawachi I, & Prothrow-Stith D 1996, "Income distribution and mortality: Cross sectional ecological study of the Robin Hood Index in the United States.", *British Medical Journal*, vol. 312, pp. 1004-1007.

Kersh R & Morone J. When the Personal Becomes Political: The Case of Obesity. 2002. 25-7-2006.
Ref Type: Unpublished Work

Kershen AJ 2002, "Introduction: Food in the Migrant Experience," in *Food in the Migrant Experience*, Kershen AJ, ed., Ashagate, Aldershot, pp. 1-12.

Khanum S M 1994, *We just buy illness in exchange for hunger: experience of health, healthcare and illness among Bangladeshi women in Britain.,* Keele University. In: Khanum S M (2001) The Household Patterns of a 'Bangladeshi Village' in England. Journal of Ethnic and Migration Studies Vol. 27, No. 3: 489-504.

Khanum S M 2001, "The household patterns of a 'Bangladeshi village' in England", *Journal of Ethnic and Migration Studies*, vol. 27, no. 3, pp. 489-504.

Kim S, Moon S, & Popkin B 2000, "The nutrition transition in Kouth Korea", *American Journal of Clinical Nutrition*, vol. 71, no. 1, pp. 44-53.

Kim S, Moon S, & Popkin B 2001, "Nutrition transition in the Republic of Korea", *Asia Pacific Journal of Clinical Nutrition*, vol. 10, no. s1, p. S48.

King H, Aubert RE, & Herman WH 1998, "Global Burden of Diabetes, 1995-2025: Prevalence, numerical estimates, and projections.", *Diabetes Care*, vol. 21, no. 9, pp. 1414-1431.

Koc M & Welsh J 2001, "Food, Foodways and Immigrant Experience", in *Canadian Ethnic Studies Association Conference*, Centre for Studies in Food Security, Ryerson University, Toronto, Canada, pp. 1-15.

Kocturk-Runefors T 1991, "A model of adaptation to a new food pattern: the case of immigrants," in *Palatable Worlds; Scoiocultural Food Studies*, Solum, Oslo, pp. 185-192.

Koestler A 1976, *The Call Girls* Pan Books, London and Sydney.

Kooner J & Chambers JC. Conceptualising the causes of coronary heart disease in South Asians. 19-47. 2004.
Ref Type: Serial (Book,Monograph)

Kunitz SJ 2004, "Social capital and health", *British Medical Bulletin*, vol. 69, pp. 61-73.

Kuper L 1975, *Race, science and society* Allen & Unwin, London.

Kyte S & Hirani A. Food price increases and their impact on London's lowest income groups. 2008. Greater London Authority. GLA Economics, Current Issues note 23.
Ref Type: Generic

Laaksonen DE, Lakka HM, Niskanen LK, Kaplan GA, Salonen JT, & Lakka TA 2002, "Metabolic syndrome and development of diabetes mellitus: application and validation of recently suggested definitions of the metabolic syndrome in a prospective cohort study.", *American Journal Epidemiology*, vol. 156, pp. 1070-1077.

Lakka HM, Laaksonen DE, Lakka TA, & et al. 2002, "The metabolic syndrome and total and cardiovascular disease mortality in middle aged men.", *JAMA*, vol. 288, pp. 2709-2716.

Landman J & Cruickshank JK 2001, "A review of ethnicity, health and nutrition-related diseases in relation to migration in the United Kingdom", *Public Health Nutrition*, vol. 4, no. 2B, pp. 647-657.

Lang T 1998, "The new globalisation, food and health: Is public health receiving its due emphasis", *Journal Epidemiological and Community Health*, vol. 52, pp. 538-539.

Lang T 2005, "Food control or food democracy? Re-engaging nutrition with society and the environment.", *Public Health Nutrition*, vol. 8, no. Special issue 1, September, pp. 730-737.

Lang T 1999, "Diet, health and globalization: 5 key questions", *Proceedings of the Nutrition Society*, vol. 38, pp. 335-343.

Lang T & Heasman M 2004, *Food Wars: The Global Battle for Mouths, Minds and Markets* Earthscan, London; Sterling , VA.

Lang T & Rayner G 2010, "Corporate responsibility in public health", *BMJ*, vol. 341, no. c3758.

Lang T & Rayner G 2003, "Food and Health Strategy in the UK: A Policy Impact Analysis", *The Political Quarterly*, vol. 74, no. 1, pp. 66-75.

Lang T & Rayner G. What to do about obesity?: The role of science in resolving policy cacophony. OST Obesity Foresight. 1-20. 2006.
Ref Type: Generic

Lang T & Rayner M 2005a, "Obesity: a growing issue for European policy?", *Journal of European Social Policy*, vol. 15, no. 4, pp. 301-327.

Lang T & Rayner M 2005b, "Obesity: a growing issue for European policy?", *Journal of European Social Policy*, vol. 15, no. 4, pp. 301-327.

Lascars.co.uk. Lascars in the port of London. 13-7-0003. 3-1-0006.
Ref Type: Internet Communication

Lawrence M & Germov J 2004, "Future Food: The Politics of functional Foods and Health Claims," in *A Sociology of Food and Nutrition: The Social Appetite*, 2nd edition edn, Germov J & Williams L, eds., Oxford University Press, Oxford, pp. 119-147.

Lawson S & Sachdev I. Identity, Language use, and attitudes: Some Sylheti-Bangladeshi Data from London, UK. Journal of Language and Social Psychology 23[1, March], 49-69. 2004.
Ref Type: Journal (Full)

Lebovitz HE 1999, "Type 2 Diabetes: An Overview", *Clinical Chemistry*, vol. 45, no. 8(B), pp. 1339-1345.

Ledikwe K, Julia A, Ello-Martin J, & Rolls BJ 2005, *Portion Sizes and the Obesity Epidemic*, American Society for Nutritional Sciences, The Pennsylvania State University.

Leeds A, Brand Miller J, Foster-Powell K, & Colagiuri S 1996, *The Glucose Revolution.* Hodder and Stoughton Pty Ltd, London.

Leicester A & Windmeijer F 2004, *The 'fat tax': Economic incentives to reduce obesity*, The Institute for Fiscal Studies.

Lemieux S, Prud'homme D, Nadeau A, Tremblay A, Bouchard C, & Despres JC 1996, "Seven-year changes in body fat and visceral adipose tissue in women. Association with indexes of plasma glucose-insulin homeostasis.", *Diabetes Care*, vol. 19, pp. 983-991.

Lennon D & Fieldhouse P 1982, *Social Nutrition* Forbes.

Leon DA 2000, "Common threads: underlying components of inequalities in mortality between and within countires," in *Poverty, Inequality and Health: An International Perspective*, Leon DA & Walt G, eds., Oxford University Press, Oxford, pp. 58-87.

Lieberman LS 2003, "Dietary, evolutionary, and modernizing influences on the prevalence of Type 2 diabetes", *Annual Review of Nutrition*, vol. 23, p. -345.

Lilloja S, Mott DM, Spraul M, Ferraro R, Foley JE, Ravussin E, & et al 1993, "Insulin resistance and insulin secretory dysfunction as precursers of non-insulin-dependent diabetes. Prospective Study of Pima Indians.", *New England Journal of Medicine*, vol. 329, pp. 1988-1992.

Lin B-H, Guthrie J, & Frazão E 1999, *Away-from-home foods increasingly important to quality of American diet*, Economic Research Service: USDA, 749.

Lin V & Robinson P 2005, "Australian public health policy in 2003-2004", *Australia and New Zealand Health Policy*, vol. 2, no. 7.

Liu S & Willett WC 2002, "Dietary glycaemic load and atherothrombotic risk", *Current Atherosclerosis Reports*, vol. 4, pp. 454-461.

Lloyd S, Madelin T, & Caraher M. Chicken, chips and pizza: fast food outlets in Tower Hamlets. Version 27, 1-33. 2009a.
Ref Type: Unpublished Work

Lloyd S, Madelin T, & Caraher M. Chicken, chips and pizza: fast food outlets in Tower Hamlets. Version 27, 1-33. 2009b.
Ref Type: Unpublished Work

Lobmayer P & Wilkinson R G 2002, "Inequality, residential segregation by income, and mortality in US cities", *Journal of Epidemiology and Community Health*, vol. 56, pp. 183-187.

Lucas A, Fewtrell MS, & Cole TJ 1999, "Fetal origins of adult disease - the hypothesis revisited", *BMJ*, vol. 319, no. 24 July, pp. 245-249.

Ludwig DS 2002, "The glycaemic index: physiological mechanisms relating to obesity, diabetes, and cardiovascular disease", *JAMA*, vol. 287, pp. 2414-2423.

Lynch J & Davey Smith G 2005, "A Life Course Approach to Chronic Disease Epidemiology", *Annual Review of Public Health*, vol. 26, pp. 1-35.

Lynch J, Davey Smith G, Hillemeier, Shaw M, Raghunathan T, & Kaplan G 2001, "Income Inequality, the psychosocial environment, and health: comparisons of wealthy nations", *Lancet*, vol. 358, pp. 194-200.

Lynch J, Due P, Muntaner C, & Davey Smith G 2000, "Social capital - Is it a good investment strategy for public health?", *Journal of Epidemiology and Community Health*, vol. 54, pp. 404-408.

Lynch JW, Davey Smith G, Kaplan GA, & House JS 2000a, "Income inequality and mortality: importance to health of individual income, psychosocial environment, or material conditions", *BMJ*, vol. 320, p. 1202.

Lynch JW, Davey Smith G, Kaplan GA, & House JS 2000b, "Income inequality and mortality: importance to health of individual income, psychosocial environment, or material conditions", *BMJ*, vol. 320, pp. 1200-1204.

Lynch JW, Kaplan GA, Pamuck ER, Cohen RD, & et al 1998, "Income Inequality and Mortality in Metropolitan Areas of the United states", *American Journal of Public Health*, vol. 88, no. 7, pp. 1074-1080.

MacInnes T & Kenway P 2009, *London's Poverty Profile*, New Policy Institute, London.

MacMillan T "Getting Personal: shifting responsibilities for dietary health. Launch symposium.", Food Ethics Council, pp. 1-14.

Mannan N & Boucher BJ 2002, "The Bangladeshi Diaspora and its Dietary Profile in East London 1990 - 2000.," in *Food in the migrant experience*, Anne J.Kershen, ed., Ashgate, Aldershot, pp. 229-243.

Marmot M 2005, "Social determinants of health inequalities", *The Lancet*, vol. 25, no. 365, pp. 1099-1104.

Marmot M, Adelstein A, & Bulusu L 1984, *Immigrant mortality in England and Wales 1970-78: causes of death by country of birth.*, HMSO, London.

Marmot M, Allen J, Goldblatt P, Boyce T, McNeish D, Grady M, & Geddes I 2010, *Fair Society, Healthy Lives. Strategic Review of Health Inequalities in England Post 2010 (The Marmot Review)*, The Marmot Review.

Marmot M, Shipley MJ, & Rose D 1984, "Inequalities in death - specific explanations of a general pattern?", *Lancet*, vol. i, pp. 1003-1006.

Marmot MG, Adelstein AM, & Bulusu L 1984, *Immigrant mortality in England and Wales 1970-78: Causes of death by country of birth*, HMSO, London.

Marmot MG & Davey Smith G 1989, "Why are the Japanese Living Longer?", *British Medical Journal*, vol. 299, no. Dec 23-30, pp. 1547-1551.

Marmot MG & Wilkinson R G 2001, "Psychosocial and material pathways in the relation between income and health: a response to Lynch et al", *BMJ*, vol. 322, no. 19 May, pp. 1233-1236.

Marshall G, Rose D, Newby H, & Vogler C 1993, *Social class in modern Britian* Hutchinson Education, London.

Marshall T 2000, "Exploring a fiscal food policy: the case of diet and ischaemic heart disease", *BMJ*, vol. 320, pp. 301-305.

Marx K. Wage Labour and Capital: Relation of Wage-Labour to Capital. Wage Labour and Capital, the original 1891 pamphlet . 1999.
Ref Type: Internet Communication

Mathers D, Vos ET, Stevenson CE, & Begg SJ 2001, "The burden of disease and injury in Australia", *Bulletin of the World Health Organization*, vol. 79, no. 11, pp. 1076-1084.

Matthiessen J, Fagt S, Biltoft-Jensen A, Beck AM, & Ovesen L 2003, "Size makes a difference", *Public Health Nutrition*, vol. 6, no. 1, pp. 65-72.

McCance DR, Pettit DJ, Hanson RL, Jacobsson LTM, Knowles WC, & Bennett PH 1994, "*"Thrifty genotype", "thrifty phenotype," or "surviving small baby genotype"?*", *BMJ*, vol. 308, no. 942, p. 945.

McCord C & Freeman HP 1990, "Excess mortality in Harlem", *New England Journal of Medicine*, vol. 322, pp. 173-177.

McKeigue PM, Marmot MG, Syndercombe-Court YD, Cottier DE, Rahman S, Riemersma RA, & et al. 1988, "Diabetes, hyperinsulinaemia and coronary risk factors in Bangladeshis in East London.", *British Heart Journal*, vol. 60, pp. 390-396.

McLean C & Campbell CM 2003, "Locating Research Informants in a Multi-ethnic Community: Ethnic Identities, Social Networks and Recruitment Methods", *Ethnicity and Health*, vol. 8, no. 1, pp. 41-61.

McMichael T 2001, *Human frontiers, environments and disease: Past patterns, uncertain futures* Cambridge University Press, Cambridge.

Mehta P 2003, *Transaltion Project*, Genetic Interest Group.

Mellin-Olsen T & Wandel M 2005, "Changes in Food Habits among Pakistani Immigrant Women in Oslo, Norway", *Ethnicity and Health*, vol. 10, no. 4, pp. 311-339.

Mendez MA & Popkin BM 2004, "Globalization, urbanization and nutritional change in the developing world", *electronic Journal of Agricultural and Development Economics*, vol. 1, no. 2, pp. 220-241.

Mercer SL, Green LW, Rosenthal AC, Husten CG, Kettel Khan L, & Dietz WH 2003, "Possible lessons from the tobacco experience for obesity control", *American Journal of Clinical Nutrition, Vol.77, No.4, 1073S-1082S, April 2003*, vol. 77, no. 4, pp. 1073S-1082S.

Messer N 1997, *Decentralisation and Rural food Insecurity, Land Reform, land Settlement and Cooperatives, Rome: FAO*, In: Food Security and the Millennium Development Goal on Hunger in Asia Overseas Development Institute., London, Working Paper 231.

Ministry of Health 2003a, *Healthy Eating - Healthy Action. A background*, New Zealand Government, Wellington, New Zealand.

Ministry of Health 2003b, *Healthy Eating - Healthy Action: A Strategic Framework*, New Zealand Government, Wellington, New Zealand.

Ministry of Health and Clinical Trials Research 2009, *Clinical Guidelines for Weight Management in New Zealand Children and Young People*, Ministry of Health, Wellington.

Ministry of Health, C. T. R. U. 2009, *Clinical Guidelines for Weight Management in New Zealand Adults.*, Ministry of Health, Wellington.

Mirza H A 0 AD/11/27, "Food security and nutritional well being in Bangladesh - lessons learned and tasks ahead", in *Feeding Asian Cities*, Bangladesh Institute of Research and Training on applied Nutrition (BIRTAN), Ministry of Agriculture, pp. 1-11.

MMWR 2009, *Centers for Disease Control and Prevention. Recommended Community Strategies and Measurements to Prevent Obesity in the United States*, CDC. MMWR - Morbidity and Mortality Weekly Report, 58 (No. RR-7).

Modood T, Modood R, Lakey J, Nazroo J, Smith P, Virdee S, & Beishon S 1997, *Ethnic Minorities in Britain. Diversity and Disadvantage - Fourth National Survey of Ethnic Minorities*, Policy Studies Institute, London.

Monteiro CA, Popkin BM, & Coitinho D 2002, "What Brazil is doing to promote healthy diets and active lifestyles", *Public Health Nutrition*, vol. 5, no. 1a, pp. 263-267.

Moving Here: Migration histories. Early South Asian Workers in Britain: Lascars. 2006. 3-1-0006.
Ref Type: Internet Communication

Muller A 2002, "Education, income inequality, and mortality: a multiple regression analysis", *BMJ*, vol. 324, no. January 5, pp. 23-25.

Murphy CPH 1986, "Piety and Honour: The meaning of Muslim Feasts in Old Delhi," in *Food, Society, and Culture: Aspects in South Asian Food Systems*, Khare RS & Rao MSA, eds., Carolina Academic Press, Durham, pp. 85-120.

Murphy S. Detox begins at home. Guardian Unlimited.Weekend.Shorts: Get a grip . 2005. 10-7-2006.
Ref Type: Internet Communication

Murray CJL, Michaud CM, McKenna M, & Marks J 1998, *US Patterns of Mortality by County and Race: 1965-1994*, Harvard Center for Population and Development Studies, Cambridge.

Nagpal N 2003, "Health Matters: Coping Indigenously", *Nursing Journal of India*, vol. 94, no. 4, pp. 78-80.

Nathan SA, Develin E, Grove N, & Zwi AB 2005, "An Australian childhood obesity summit: the role of data and 'evidence' in public policy making", *Australia and New Zealand Health Policy*, vol. 2, no. 17.

National Centre for Chronic Disease Prevention and Health Promotion. Public Health Puzzle: Social Determinants of Health. 7-10-2005. 11-1-0006.
Ref Type: Internet Communication

National Health & Medical Research council 1997, *Acting on Australia's weight: A strategic plan for the prevention of overweight and obesity*, Australian Government Publishing Service, Canberra.

National Institute of Diabetes and Digestion and Kidney Diseases (NIDDK). Diabetes Prevention Programme. National Diabetes Information Clearinghouse . 2004. U.S., U.S Department of Health and Human Services: National Institutes of Health.
Ref Type: Generic

National Institute of Public Health, S. 1997, *Determinants of the burden of disease in the European Union*, NIPH, Stockholm.

National Obesity Observatory 2009, *Adult Obesity 1993-2007*, National Obesity Observatory.

National Statistics. Focus on London - Interactive Maps: Indices of Deprivation for Wards, 2000. 2003.
Ref Type: Internet Communication

National Statistics. Social Inequalities: Income. 7-12-2004. 20-1-2006.
Ref Type: Internet Communication

National Statistics. The National Statistics Socio-economic Classification. Office for National Statistics . 20-7-2005. 28-1-2006.
Ref Type: Internet Communication

National Statistics. Census 2001. Census 2001, ONS . 2001. 5-7-2005.
Ref Type: Internet Communication

National Statistics Online: Ethnicity and identity. Education. Office for National Statistics . 21-2-2006a. 21-8-0009a.
Ref Type: Internet Communication

National Statistics Online: Ethnicity and identity, E. p. Annual Population Survey, January 2004 to December 2004. Offiice for National Statistics . 2006b. 21-8-0009b.
Ref Type: Internet Communication

Nawani NP 1994, *Indian experience on household food and nutrition security*, RAP Publication.

Nazroo J 1998, "Genetic, cultural or socio-economic vulnerability? Explaining ethnic inequalities in health.", *Sociology of Health and Illness*, vol. 20, pp. 710-730.

Nazroo J 1997, *The health of Britain's ethnic minorities : findings from a national survey* Policy Studies Institute, London.

Nazroo JY 2001, *Ethnicity, Class and Health* Policy Studies Institute, London.

Neel JV 1962, "A "thrifty" genotype rendered detrimental by "progress"?", *American Journal of Human Genetics*, vol. 14, pp. 353-362.

Neel JV 1999, "when Some Fine Old Genes Meet a 'New' Environment", *World Review of Nutrition and Diet*, vol. 84, pp. 1-18.

Nestle M 2002, *Food Politics: How the Food Industry Influences Nutrition and Health* University of California Press, Berkeley California.

Nestle M 2003, "Increasing portion sizes in American diets: More calories, more obesity", *Journal of the American Dietetic Association*, vol. 103, no. 1, pp. 39-40.

NHS Executive 1996, *Burdens of disease a discussion document*, Department of Health.

NICE. Obesity: the prevention, identification, assessment and management of overweight and obesity in adults and children. [CG43 Obesity: NICE guideline]. 2006.
Ref Type: Generic

NICE. Community engagement to improve health. [NICE public health guidance 9]. 2008.
Ref Type: Generic

NICE. Spatial Planning for Health (discontinued). 2010.
Ref Type: Generic

Nichter M 1989, *Anthropology and International Health: South Asian Case Studies* Kluwer Academic Publishers, London.

Nielsen SJ & Popkin BM 1998, "Patterns and Trends in Portion Sizes, 1977-1998", *JAMA*, vol. 289, pp. 450-453.

Noble M, McLennon D, Wilkinson K, Whitworth A, Barnes H, & Dibben C 2008, *The English Indices of Deprivation 2007*, Communities and Local Government: London.

Nomani MZA. Diet during Ramadan. West Virginia University . 2005. 28-2-2005.
Ref Type: Internet Communication

Nuffield Council on Bioethics 2007, *Public Health: ethical issues*, Nuffiield Council on Bioethics.

Nutbeam D 2004, "Getting evidence into policy and practice to address health inequalities.", *Health Promotion International*, vol. 19, no. 2, pp. 137-140.

O'Dowd A 2011, "Experts express doubts that food and drink industries have the motives to improve health", *BMJ*, vol. 342, no. d591.

O'Rahilly S 1997, "Science, medicine, and the future: Non-insulin dependent diabetes mellitus: the gathering storm", *British Medical Journal*, vol. 314, no. 7085, pp. 955-959.

Obesity Working Group 2009, *Australia:The Healthiest Country by 2020. Technical Report No 1. Obesity in Australia: a need for urgent action. Including addendum for October 2008 to June 2009*, National Preventative Health Taskforce, Technical Report 1.

Ofcom 2006, *Television Advertising of Food and Drink Products to Children - Statement and Further Consultation*, Office of Communications.

Office National Statistics. Measuring inequality in household income: the Gini coefficient. 10-4-2003. 7-6-2006.
Ref Type: Internet Communication

Office of National Statistics. Ethnicity & Identity. Health: Asians have worst self-reported health. Census, April 2001.Health Survey for England, The Health of Minority Ethnic Groups, 1999. 2004. 11-12-2006.
Ref Type: Internet Communication

Oken E & Gillman MW 2003, "Fetal Origins of Obesity", *Obesity Research*, vol. 11, no. 4, April, pp. 496-506.

Omran AR 2005, "The Epidemiologic Transition: A theory of the Epidemiology of Population Change", *The milbank Quarterly*, vol. 83, no. 4, pp. 731-757.

Opare-Obisaw C, Fianu DAG, & Awadzi K 2000, "Changes in family food habits: the role of migration", *Journal of Consumer Studies and Home Economics*, vol. 24, no. 3, pp. 145-149.

Orwell G 2001, *The Road to Wigan Pier*, New Ed edition edn, Penguin Classics.

Pearce N 1996, "Traditional epidemiology, modern epidemiology, and public health", *American Journal of Public Health*, vol. 86, no. 5, pp. 678-683.

Pearce N & Davey Smith G 2003, "Is Social Capital the Key to Inequalities in Health?", *American Journal of Public Health*, vol. 93, no. 1, pp. 122-129.

Pearce N, Foliaki S, Sporle A, & Cunningham C 2004, "Genetics, race, ethnicity, and health", *BMJ*, vol. 328, p. 1071.

Pearson M 1986, "Racist Notions of Ethnicity and culture in Health Education," in *The Politics of Health Education: raising the issues*, Rodmell S & Watt A, eds., Routledge & Kegan Paul, London, pp. 38-56.

Petchey R, Williams J, & Carter Y. From street-level bureaucrats to street-level policy entrepreneurs? Central policy and local action in community cancer care. 2006. 27-6-2006.
Ref Type: Unpublished Work

Peterson T 1980, "The Arab Influence on Western European Cooking", *Journal of Medieval History*, vol. In: Collingham L (2005). Curry: A biography. Chatto and Windus.

Phillipson C, Ahmed N, & Latimer J 2003, *Women in transition: A study of the experiences of Bangladeshi women living in Tower Hamlets.* The Policy Press, Bristol.

Platt L 2005, *Migration and social mobility: the life chances of Britian's minority ethnic communities.*, The Policy Press for the Joseph Rowntree Foundation, Bristol.

Polya G. The Forgotten Holocaust - The 1943/44 Bengal Famine. 11-7-2005. 3-1-0006.
Ref Type: Internet Communication

Poortinga W 1982, "Social capital: An individual or collective resource for *health?*", *Social Science and Medicine*, vol. 62, no. 2, pp. 292-302.

Pope C & Mays N 1995, "Qualitative Research: Reaching the parts other methods cannot reach: an introduction to qualitative methods in health and health services research", *BMJ*, vol. 311, pp. 42-45.

Pope C, van Royen P, & Baker R 2002, "Qualitative methods in research on healthcare quality", *Quality and Safety in Health Care*, vol. 11, pp. 148-152.

Popkin B 2003, "The Nutrition Transition in the Developing World.", *Development Policy Review*, vol. 21, no. 5-6, pp. 581-597.

Popkin B "Obesity and economies in transition: Dynamics of the global nutrition transition", in *10th International Congress on Obesity*, Sydney, Australia.

Popkin B, Horton S, & Kim S 2001, *The Nutritional Transition and Diet-Related Chronic Diseases in Asia: Implications for Prevention*, Food Consumption and Nutrition Division: International Food Policy Research Institute, 105.

Popkin BM 2001a, "An overview on the nutrition transition and its health implications: the Bellagio meeting", *Public Health Nutrition*, vol. 5, no. 1A, pp. 93-103.

Popkin BM 2001b, "Part II. What is unique about the experience in lower-and middle-income less-industrialised countries compared with the very-high-income industrialised countires? The Shift in stages of the nutrition transition in the developing world differs from past experiences!", *Public Health Nutrition*, vol. 5, no. 1A, pp. 205-214.

Popkin BM 2001c, "The Nutrition Transition and Obesity in the Developing World", *Journal of Nutrition*, vol. 131, pp. 871S-873S.

Popkin BM 2002, "The shift in stages of the nutrition transition in the developing world differs from past experiences!", *Public Health Nutrition*, vol. 5, pp. 205-214.

Popkin BM & Gordon-Larsen P 2004, "The nutrition transition: worldwide obesity dynamics and their determinants", *International journal of Obesity*, vol. 28, p. S2-S9.

Popkin BM & Nielsen SJ 2003, "The Sweetening of the World's Diet", *Obesity Research*, vol. 11, pp. 1325-1332.

Power C & Parsons t 2000, "Nutritional and other influences in childhood as predictors of adult obesity", *Proceedings of the Nutrition Society*, vol. 59, pp. 267-272.

Prentice A 2004, *Causes*, House of Commons - The United Kingdom Parliament.

Preventative Health Taskforce 2009, *National Preventative Health Strategy*, Commonwealth of Australia.

Public Health Resource Unit. CASP. 2006. NHS.
Ref Type: Generic

Purewal B. Health, Environment & Sustainable Living for Asian Communities (seminar). 2006. London, Asian Health Network.
Ref Type: Generic

Puska P 2002, "Successful prevention of non-communicable diseases: 25 year experiences with North Karelia Project in Finland", *Public Health Medicine*, vol. 4, no. 1, pp. 5-7.

Putnam RD 1993, *Making democracy work: civic traditions in modern Italy.* Princeton University Press, Princeton, NJ.

Ragged School Museum. Tower Hamlets On'Line. Ragged School Museum . 2005. 4-7-2005.
Ref Type: Internet Communication

Ramachandra Rao 1985, *Encyclopaedia of Indian Medicine* Ramdas Bhatkal, Bombay.

Ramachandran A, Snehalatha C, Kapur A, Vijay V, Mohan V, Das AK, Rao PV, Yajnik CS, Prasanna Kumar KM, & Nair JD 2001, "High prevalence of diabetes and impaired glucose tolerance in India: National Urban Diabetes Survey.", *Diabetologia*, vol. 9, pp. 1094-1101.

Ramachandran A, Snehalatha C, Vijay V, & King H 2002, "Impact of poverty on the prevalence of diabetes and its complications in urban southern India", *Diabetic Medicine*, vol. 19, pp. 130-135.

Ramachandran A, Snehalatha C, & Viswanathan V. Explosion of Type 2 diabetes in the Indian Subcontinent. International Diabetes Monitor Archives: Reviews and Abstracts of Current Key Literature 15[5], 1-9. 2003. Novo Nordisk.
Ref Type: Generic

Ravussin E, Valencia ME, Esparza J, Bennett PH, & Schultz LO. 1994, "Effects of a Traditional Lifestyle on Obesity in Pima Indians.", *Diabetes Care*, vol. 17, pp. 1067-1074.

Rayner M & Scarborough P 2005, "The burden of food related ill health in the UK", *Journal of Epidemiology and Community Health*, vol. 58, pp. 1054-1057.

Regenstein J M, Chaudry M M, & Regenstein C E 2003, "The Kosher and Halal Food Laws", *Comprehensive reviews in food science and food safety*, vol. 2, pp. 111-127.

Riste L, Khan F, & Cruickshank K 2001, "High Prevelence of Type 2 Diabetes in All Ethnic Groups, Including Europeans, in a British Inner City: Relative poverty, history, inactivity, or 21st century Europe", *Diabetes Care*, vol. 24, pp. 1377-1383.

Rizvi N 1986, "Food categories in Bangladesh, and Its Relationship to Food Beliefs and Practices of Vulnerable Groups.," in *Food, Society and Culture: Aspects in south Asian Food Systems*, Khare RS & Rao MSA, eds., Carolina Academic Press, Durham, pp. 223-252.

Robinson N, Lloyd CE, & Stevens LK 1998, "Social deprivation and mortality in adults with diabetes mellitus", *Diabetic Medicine*, vol. 15, no. 3, pp. 205-212.

Robinson R 2001, "The fetal origins of adult disease: No longer just a hypothesis and may be critically important in south Asia.", *BMJ*, vol. 322, no. 17 February, pp. 375-376.

Roos N, Islam MM, & Thilsted SH 2003, "Animal Source Foods to Improve Micronutrient Nutrition and Human function in Developing Countries", *The Journal of Nutrition*, vol. 133, pp. 4021S-4026S.

Roper NA, Bilous RW, Kelly WF, Unwin N C, & Connolly VM 2001, "Excess mortality in a population with diabetes and the impact of material deprivation: longitudional, population based study", *BMJ*, vol. 322, no. 9 June, pp. 1389-1393.

Rose D. Social Research Update 9: Official Social Classification in the UK. 1995.
Ref Type: Internet Communication

Rosenbloom AL, Joe JR, Young RS, & Winter WE 1999, "Emerging epidemics of Type 2 Diabetes in Youth.", *Diabetes Care*, vol. 22, no. 2, pp. 345-354.

Royal College of Nursing. Transcultural communication and health care practice: Politics of diversity. Section 1: The nature/origins of diversity. 8-4-2005.
Ref Type: Generic

Satia-Abouta J, Patterson RE, Neuhouser ML, & Elder J 2002, "Dietary acculturation: applications to nutrition research and dietetics.", *Jounral of the American Dietetic Association*, vol. 102, no. 8, pp. 1105-1118.

Sawaya AL, Martins P, Hoffman DJ, & Roberts SB 2003, "The Link Between Childhood Undernutrition and Risk of Chronic Diseases in Adulthood: A Case Study of Brazil", *Nutrition Reviews*, vol. 61, no. 5 (May), pp. 168-175.

Sayeed MA, Hussain MZ, Banu A, Rumi MA, & Azad Khan AK 1997, "Prevalence of diabetes in a suburban population of Bangladesh", *Diabetes Research in Clinical Practice*, vol. 34, no. 3, pp. 149-155.

Sayeed MA, Mahtab H, Khanam PA, Latif ZA, Ali SMK, Banu A, Ahren B, & Khan AKA 2003, "Diabetes and Impaired Fasting Glycaemia in a Rural Population of Bangladesh.", *Diabetes Care*, vol. 26, pp. 1034-1039.

Schlosser E. Food Quality, Human Health and the Threat of Industrial Agriculture. Soil Association Lady Eve Lecture. 2006.
Ref Type: Generic

Schmidthuber J 2005, *The growing global obesity problem: some policy options to address it*, Food and Agriculture Organisation of the United States.

Schwappach DL 2002, "Resource allocation, social values and the QALY: a review of the debate and empirical evidence.", *Health expectations : an international journal of public participation in health care and health policy*, vol. 5, no. 3, pp. 210-222.

Sen A 1984, *An Essay on Entitlement and Deprivation* Oxford University Press.

Senior PA & Bhopal R 1994, "Ethnicity as a variable in epidemiological research", *BMJ*, vol. 309, no. 30 July, pp. 327-329.

Sevak L, McKeigue PM, & Marmot MG 1994, "Relationship of hyperinsulinaemia to dietary intake in South Asian and European men", *American Journal clinical Nutrition*, vol. 59, pp. 1069-1074.

Shepherd R 1999, "Social determinants of food choice", *Proceedings of the Nutrition Society*, vol. 58, no. 4, pp. 807-812.

Shepherd R 2002, "Resistance to changes in diet", *Proceedings of the Nutrition Society*, vol. 61, no. 2, pp. 267-272.

Shetty PS 2002, "Nutrition transition in India", *Public Health Nutrition*, vol. 5, no. 1A, pp. 175-182.

Simpson S & Raubenheimer D 2003, *The Geometry of Human Nutrition*, The Wissenschaftskolleg: Institute for Advanced Study, Berlin.

Simpson S & Raubenheimer D. Novel insights into human obesity. 23-11-2005. Australia, Meat & Livestock Australia, hosted by: DAA NSW Branch and Nutrition Society of Australia. Diet and Human Evolution: What are the Health Implications for the 21st Century? 27-4-2006.
Ref Type: Sound Recording

Singer P & Mason J 2006, *Eating: What we eat and why it matter* Arrow Books.

Sinha R, Fisch G, Teague B, & et al 2002, "Prevelance of imparied glucose tolerance among children and adolescence with marked obesity.", *New England Journal of Medicine*, vol. 346, pp. 802-810.

Smaje C 1995, "Ethnic residential concentration and health: evidence for a positive effect?", *Policy and Politics*, vol. 23, no. 3, pp. 251-269.

Smaje, C. 1995, *Health Race and Ethnicity* King's Fund Institute, London.

Smil V 2002, "Eating meat: evolution, patterns, and consequences.", *Population and Development Review*, vol. 28, no. 4, pp. 599-639.

Sports Council and Health Education Authority 1995, *Allied Dunbar National Fitness Survey* , In: Statistics on obesity,physical activity and diet:England,The Health and Social Care Information Centre, February 2009.

Stern MP 1997, "The insulin resistance syndrome.," in *International textbook of diabetes mellitus, Vol 2.*, Alberti KGMM, Zimmet P, & DeFronzo RA, eds., John Wiley & Sons, Chichester, pp. 255-283.

Stewart-Brown S 2000, "What causes social inequalities: why is this question taboo?", *Critical Public Health*, vol. 10, no. 2, pp. 233-242.

Stewart-Brown S 2003, "Research in Relation to Equity: Extending the Agenda", *Paediatrics*, vol. 112, no. 3, pp. 763-765.

Storer J 1977, "Hot and Cold food beliefs in an Indian Community and their significance.", *Journal of Human Nutrition*, vol. 31, no. 1, pp. 33-40.

Strong K, Mathers C, Leeder S, & Beaglehole R 2005, "Preventing chronic diseases: how many lives can we save?", *Lancet*, vol. Published online October 5.

Sustain 2004, *Capital eats: An analysis of London's food economy*, SUSTAIN: THE ALLIANCE FOR BETTER FOOD AND FARMING, London.

Sustainable Development Networking Project (SDNP): Bangladesh 1998, *The Fifth Five Year Plan 1997-2002*, SDNP Bangladesh.

Swanton K. Healthy Weight, Healthy Lives: A toolkit for developing local strategies. 2008. National Heart Forum/Cross-Government Obesity Unit/Faculty of Public Health.
Ref Type: Generic

Swinburn B & Egger G 2002, "Preventive strategies against weight gain and obesity", *Obesity Reviews*, vol. 3, no. 4, pp. 289-301.

Swinburn B, Gill T, & Kumanyika s 2005, "Obesity prevention: a proposed framework for translating evidence into action", *Obesity Reviews*, vol. 6, no. 1, p. 23.

Szreter S & Woolcock M 2004, "Health by association? Social capital, social theory, and the political economy of public health", *International Journal of Epidemiology*, vol. 33, no. 4, pp. 650-667.

Tackey ND 2006, *What stops Pakistanis and Bangladeshis getting jobs?*, IES - institute for employment studies, 3.

Tang N 2002, "Interviewer and Interviewee Relationships Between Women", *Sociology*, vol. 36, no. 3, pp. 703-721.

Tauger M 2003, "Entitlement, Shortage and the 1943 Bengal Famine: Another Look", *The Journal of Peasant Studies*, vol. 31, pp. 45-72.

Temple B & Edwards R 2002, "Interpreters/translators and cross-language research: Reflexivity and border crossings", *International Journal of Qualitative Methods*, vol. 1, no. 2, pp. 1-22.

The National Institute of Public Health 2002, *Sweden's New Public Health Policy*, The National Institute of Public Health, Sweden.

The NHS Information Centre, L. S. 2009, *Statistics on obesity, physical activity and diet:England, February 2009*, The Health and Social Care Information Centre, 1.

Titmuss RM 1976, "War and social policy," in *Essays on 'The welfare state'*, 3rd edn, introduction by Brian Abel-Smith, ed., Allen and Unwin, London.

Tower Hamlets Primary Care Trust 2002, *Diabetes National Service Framework: Baseline Assessment, Modernisation and an Investment Plan*, Tower Hamlets Primary Care Trust, London.

Townsend P 1979, *Poverty in the United Kingdom : a survey of household resources and standards of living* Penguin, Harmondsworth.

Tran K M, Johnson R K, Soultanakas RP, & Matthews D 2000, "In-person vs Telephone-administered Multiple-pass 24-hour Recalls in Women: Validation with Doubly Labeled Water", *Journal of the American Dietetic Association*, vol. 100, no. 7, pp. 777-783.

Trowell HC 1980, "From normotension to hypertension in Kenyans and Ugandans 1928-1978.", *East African Medical Journal*, vol. 57, pp. 167-173.

Twinn S 1997, "An exploratory study examining the influence of translation on the validity and reliability of qualitative data in nursing research.", *Journal of Advanced Nursing*, vol. 26, no. 2, pp. 418-423.

Uauy R & Kain K 2002, "The epidemiological transition: need to incorporate obesity prevention into nutrition programmes", *Public Health Nutrition*, vol. 5, no. Special Issie 1a, pp. 223-229.

UKPHA 2004, *Choosing Health or Losing Health? A response from the UK Public Health Association to the White Paper "Choosing Health – making healthy choices easier"*, UK Public Health Association.

UN, D. o. E. a. S. A. P. D. 2006, *World Urbanization Prospects: The 2005 Revision.* United Nations, Working Paper No. ESA/P/WP/200.

UNDP 2005, *Human development indicators*, **United Nations Development Programme**.

UNICEF & Unite for children 2009, *Child and Maternal Nutrition in Bangladesh*.

US Department of Health and Human Services 1996, *Physical Activity and Health: A Report of the Surgeon General*, GA: U.S. Dept. of Health and Human Servs., Centres for Disease Control and Prevention, National Centre for Chronic Prevention and Health Promotion., Atlanta.

Uusitalo U, Feskens EJM, Tuomilehto J, Dowse G, Haw U, Fareed D, Hemraj F, Gareeboo H, Alberti KGMM, & Zimmet P 1996, "Fall in total cholesterol concentration over five years in association with changes in fatty acid composition of cooking oil in Mauritius: cross sectional survey", *BMJ*, vol. 313, pp. 1044-1046.

Valle T, Tuomilehto J, & Eriksson J 1997, "Epidemiology of NIDDM in Europids.," in *International Textbook of Diabetes Mellitus*, 2nd edn. edn, Alberti KGMM, Zimmet P, & DeFronzo RA, eds., John Wiley, Chichester, pp. 125-142.

Vaughan L. Healthy Weight in London. 2009. Regional Public Health Group - London.
Ref Type: Unpublished Work

Virdee S 1997, "Racial harassment," in *Ethnicity, class and health, 2001*, Nazroo J, ed., Policy Studies Institute, London.

Visit East London. Bengali History Walk. 2005. 4-7-2005.
Ref Type: Internet Communication

Vogler C. Social Policy Research and Evaluation. SGM216 . 2005. City University, London, Department of Sociology.
Ref Type: Generic

Volker D 2004, *How Much is on Your Plate*, Nutrition Research Council, University of Sydney.

Voll JO 2006, "Islam", *From: Encyclopedia of Politics and Religion, ed.Robert Wuthnow.2 vols.(Washington, D.C.: Congressional Quarterly, Inc., 1998), 383-393.*

Vorster HH, Bourne LT, Venter CS, & Oosthuizen W 1999, "Contribution of Nutrition to the Health Transition in Developing Countries: A Framework for Research and Intervention", *Nutrition Reviews*, vol. 57, no. 11, pp. 341-349.

Wanless D 2004, *Securing Good Health for the Whole Population*, HM Treasury, London, Final Report.

Wanless D 2002, *Securing Our Future Health: Taking a Long-Term View*, HM Treasury, London, Final Report.

Waterston T, Alperstein G, & Stewart Brown S 2004a, "Social capital: a key factor in child health inequalities.", *Archives of Disease in Childhood*, vol. 89, no. 456, p. 459.

Waterston T, Alperstein G, & Stewart Brown S 2004b, "Social capital: a key factor in child health inequalities.", *Archives of Disease in Childhood*, vol. 89, no. 456, p. 459.

Watts R. Advertising regulator caves in to industry. The Food Magazine [73], 12-13. 2006. London, The Food Commission.
Ref Type: Magazine Article

Weiss R, Dziura J, Burgert TS, & et al 2004, "Obesity and the metabolic syndrome in children and adolescents.", *New England Journal of Medicine*, vol. 350, pp. 2362-2374.

Which? 2008, *Food Fables - the second sitting. The truth behind how food companies target children.*, Which?.

Whincup PH, Gilg JA, Papacosta O, Seymour C, Miller GJ, Alberti KGMM, & Cook DG 2002, "Early evidence of ethnic differences in cardiovascular risk: cross sectional comparison of British South Asian and white children", *BMJ*, vol. 324, no. 16 March, p. 635.

Whitehead M 1992, *Inequalities in Health: The Black Report and the Health Divide*, Penguin Books Ltd.

Whitelaw E "Epigenetics and Obesity", in *10th International Congress on Obesity: Sydney Australia*.

WHO 1999, *The World Health Report.1999 Making a Difference.*, WHO, Geneva.

WHO 2002, *Globalisation, Diets and Noncommunicable diseases*, World Health Organisation, Switzerland.

WHO. Nutrition in transition: globalization and its impact on nutrition patterns and diet-related diseases. 2003a.
Ref Type: Internet Communication

WHO 2003b, *Social Determinants of Health: The Solid Facts*, World Health Organisation, Denmark.

WHO 2004, *The World Health Report 2004: changing history*, World Health Organization, Geneva.

WHO/FAO 1998, *Carbohydrates in Human Nutrition*, FAO: Food and Nutrition Division, Rome, 66.

Wikipedia. Gini coefficient. 3-6-2006. 7-6-2006.
Ref Type: Internet Communication

Wilkinson R G 1997a, "Commentary: Income inequality summarises the health burden of individual relative deprivation", *BMJ*, vol. 314, pp. 1727-1730.

Wilkinson R G 1996, *Unhealthy Societies: The Afflictions of Inequality* Routledge, London and New York.

Wilkinson R G 1997b, "Socioeconomic determinants of health: Health inequalities: relative or absolute material standards?", *BMJ*, vol. 314, no. 22 February, pp. 591-600.

Wilkinson R G 2005, *The impact of inequality : how to make sick societies healthier* Routledge, London.

Wilkinson R G & Pickett K 2009, *The Spirit Level: Why More Equal Societies Almost Always Do Better*, 1st edn, Allen Lane.

Willet W, Manson J, & Liu S 2002, "Glycaemic index, glycaemic load, and risk of type 2 diabetes.", *American Journal clinical Nutrition*, vol. 76 (suppl), pp. 274S-280S.

Williams R, Wright W, & Hunt K 1998, "Social class and health: The puzzling counter-example of British South Asians", *Social Science and Medicine*, vol. 47, pp. 1277-1288.

Williams R The Archbishop of Canterbury. Scriptures in Monotheistic Faith. 22-10-2007. 18-8-0009.
Ref Type: Unpublished Work

Wing RR, Blair EH, Bononi P, Marcus MD, Watanabe R, & Bergman RN 2005, "Caloric restriction per se is a significant factor in improvements in glycaemic control and insluin sensitivity during weight loss in obese NIDDM patients.", *Diabetes Care*, vol. 17, pp. 30-36.

World Bank 2002, *World Bank Development Indicators*, In: Food Security and The Millenium Development Goal on Hunger in Asia, Overseas Development Institute, London.

World Bank 1999, *Curbing the Epidemic. Governments and the economics of tobacco control*, The World Bank, Washington D.C., USA.

World Food Summit 1996, *Rome Declaration on World Food Security and World Food Summit Plan of Action*, FAO, Rome, Italy.

World Health Organisation 1999, *Part 1: Diagnosis and Classification of Diabetes Mellitus*, World Health Organisation, Department of Noncommunicable Disease Surveillance, Geneva.

World Health Organisation 2003a, *Food Policy Options: Preventing and Controlling Nutrition Related Non-Communicable Diseases*, The International Bank for Reconstruction and Development / The World Bank, Washington, USA.

World Health Organisation 2003c, *Food Policy Options: Preventing and Controlling Nutrition Related Non-Communicable Diseases*, The International Bank for Reconstruction and Development / The World Bank, Washington, USA.

World Health Organisation. Cardiovascular disease: prevention and control. WHO Global Strategy on Diet, Physical Activity and Health . 2006a. 24-7-2006a.
Ref Type: Internet Communication

World Health Organisation. Commission on Social Determinants of health. 2006c. 27-1-2006c.
Ref Type: Internet Communication

World Health Organisation 2011, *Global status report on noncommunicable diseases 2010*.

World Health Organisation 1978, *Declaration of Alma-Ata*, WHO, Alma-Ata, USSR.

World Health Organisation 1986, *Ottawa Charter for Health Promotion*, WHO, Ottawa, Canada.

World Health Organisation 2004, *Global Strategy on diet, physical Activity, and health. Final Resolution.*, WHO, WHA57.17.

World Health Organisation 2006d, *Self-reported health*, World Health Organization: Regional Office for Europe.

World Health Organisation 2003b, *Diet, nutrition and the prevention of chronic diseases: report of a joint WHO/FAO expert consultation*, World Health Organisation, Geneva, Switzerland, 916.

World Health Organisation 2005, *Preventing chronic diseases: a vital investment*, WHO, Geneva, Switzerland.

World Health Organisation. Cardiovascular disease: prevention and control. WHO Global Strategy on Diet, Physical Activity and Health . 2006b. 24-7-2006b.
Ref Type: Internet Communication

World Health Organisation & Food and Agricultural Organisation 2003, *Diet, Nutrition and the Prevention of Chronic Diseases*, WHO, Geneva, Series No. 916.

World Health Organisation: Department of Nutrition. The WHO Multicentre Growth Reference Study (MGRS). 2006. 3-5-2006.
Ref Type: Internet Communication

World Health Organization 2005, *Preventing chronic diseases : a vital investment : WHO global report*, WHO Press, Geneva, Switzerland.

Wrieden W, Peace H, Armstrong J, & Barton K 2003, *A short review of dietary assessment methods used in National and Scottish Research Studies*.

Yajnik CS 2004, "A Critical Evaluation of the Fetal origins Hypothesis and Its Implications for Developing Countries: Early Life Origins of Insulin Resistance and Type 2 Diabetes in India and Other Asian Countires", *American Society for Nutritional Sciences* pp. 205-210.

Yajnik CS, Fall CHD, Vaidya U, Pandit AN, Bavdekar A, Bhat DS, & et al 1995, "Fetal growth and glucose and insulin metabolism in four-year-old Indian children.", *Diabetic Medicine*, vol. 12, pp. 330-336.

Young LR & Nestle M 2002, "The contribution of expanding portion sizes to the US obesity epidemic", *American Journal of Public Health*, vol. 92, pp. 246-249.

Zerbe N 2004, "Feeding the Famine? American Food Aid and the GMO Debate in southern Africa", *Food Policy*, vol. 29, no. 6, pp. 593-608.

Zimmet PZ 1999, "Diabetes epidemiology as a trigger to diabetes research.", *Diabetologia*, vol. 42, pp. 499-518.

Zimmet PZ 2000, "Globalization, coca-colonization and the chronic disease epidemic: can the Doomsday scenario be averted?", *Journal of Internal Medicine*, vol. 247, pp. 301-310.

Zimmet PZ, Alberti KGMM, & Shaw J 2001, "Global and societal implications of the diabetes epidemic.", *Nature*, vol. 414, pp. 782-787.