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Portfolio of Practice

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Psychology**

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Declaration

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Portfolio Summary

'If you treat an individual as he is, he will stay as he is, but if you treat him as if he were what he ought to be and could be, he will become what he ought to be and could be'

- Johann Wolfgang von Goethe

The following portfolio is submitted as part of the Professional Doctorate in Health Psychology and was conducted over a two period during employment as a Trainee Health Psychologist in Rotherham, Doncaster and South Humber Mental Health NHS Foundation Trust.

The study aims to achieve the following. Firstly, (i) to introduce the reader to this specialist clinical group; (ii) to highlight the emerging role of nutrition in services as both a preventative and curative intervention for physical *and* mental health; (iii) to assess the evidence base for psychological interventions in this novel, yet specialised area; (iv) to design and evaluate the efficacy of a tailored Psycho-Nutritional Intervention; and finally (v) to draw conclusions regarding the utility of such interventions in future services.

Bringing together theory and practice

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The book is written in a clear and accessible style...

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Section A - Preface

Bringing together theory and practice

This portfolio essentially encompasses a number of pieces of work that have the aim of enhancing well-being for service users and health professionals who work with them, in a specialist mental health service. It has focussed on developing and evaluating a service (Intervention Competence), trying to understand the perspective of health professionals and service users (Consultancy studies), developing skills that access appropriate and solid research (Systematic Review), evidencing the ability to conduct such research (Doctoral Thesis), and key skills that enable these processes to occur and the effective transfer of information to health professionals and service users (Consultancy, Teaching & Training and Dissemination competence). Many of these pieces are inter-linked, particular in considering dietary change, which at present is an exciting new area within which to apply Health Psychology within *Mental Health*. Much of the work is inter-linked, for example the optional competency – Intervention, involved designing an intervention and training others in how to use this. The systematic review provided a solid evidence base and justification for the final choice of intervention, and the doctoral thesis study conducted a part-randomised controlled trial to evaluate its efficacy in comparison to a ‘Treatment as Usual’ and ‘Control Group’. The training competence included teaching research methods to both health professionals and students, and also training a nutritionist in how to use the intervention. I have conducted several consultancies in many different areas, but the key case studies indicate work that has aimed to increase choice, control and seek the views of the people we aim to help- the service users. Finally, the initial work involved in the intervention and doctoral study

was presented at a conference in Buxton, and is evaluated as part of the 'Dissemination' optional competence.

This introduction to the portfolio of work provides a more objective summary of the ways in which theory has been put into practice, and in some cases subsequently critiqued based on this process. It summarises active evaluation and intuition and aims to illustrate a level of insight and awareness that is appropriate for a Health Psychologist.

One of the key issues with much that is written in the research arena, is the lack of ecological validity - the ability to put words into action. In health psychology, professionals are particularly interested in this component for the purposes of bringing about actual change, however great, for a meaningful purpose – ideally, improved physical and mental health and well being. The research can be analysed for its reliability and validity, and the degree to which it elicits change, but there is an imbalance in the amount of theory that exists and how much can be applied. This is perhaps due to few resources, time and a lack of proactive intervention; however it seems that there is also something else at play.

Models of behaviour such as Stages of Change, based on the well-known Transtheoretical model, and models of therapy such as Motivational Interviewing (MI), have been evaluated and used in numerous pieces of research; however the same rigor seems to be amiss when it comes to prescriptive explanations about what and how they are used. It seems that so often these concepts become so abstract and a matter of linguistics, that it makes their application difficult. Nonetheless this portfolio aims to illustrate the merit of their use, along with many other theoretical viewpoints,

procedures and methods; however it will hopefully illustrate the fine line between adaptable yet measurable approaches, and 'theoretical' versus eventual effects. Assumptions are all too often made, perhaps due to the lack of clear, definitive and concise rules and examples of exactly how to relate models into practice, and what to say. This omission is perhaps due to the need to be genuine, use one's clinical judgement and therefore apply the principles in whichever way works for them, however this makes replication and understanding which bits of a theory are most influential - difficult task.

As the Psycho-Nutritional Intervention findings appear to indicate, the critical appraisal of interventions and the assessment of both suitability for and the effects of their application should be more frequently addressed, perhaps one such assumption that is made. Case formulation should consider belief systems in relation to behaviour change that in turn indicate suitability for particular interventions. The common assumption that people will respond in the same particular way to a 'therapeutic intervention' – in a graded positive, or neutral way; fails to consider the possibility that it can cause a negative effect relating to issues such as self esteem and control. Therefore I have really begun to think about the need for pre-assessment suitability as well as a tailored intervention, and outcome evaluations in successful psychological interventions.

The assumption that all therapeutic interventions are indeed that, has been questioned in this work and raises my own awareness of the need to be open-minded and not rely on what's already there just because it appears 'safe' and takes the responsibility away from me as a professional. As clinicians we may fail to see the reality of what we offer from another viewpoint, make assumptions and 'trust' in what has already been said,

perhaps a little unwisely and this lesson has been an extremely important one in my own professional development. This portfolio hopefully illustrates the importance of theory and how effectively it can be applied and utilised, but also emphasises the need to transfer critical appraisal skills in research to the same degree of stringency in their practical application.

As I begin a new post using brief therapies for substance misuse, I will try to consider the important findings of my work and the mechanisms and predictors of potentially anti-therapeutic therapy, looking closely at who receives the intervention and using, yet still looking beyond the theory and guidelines in an innovative way.

In conclusion, this portfolio has aimed to illustrate both the phenomenon of using science and critically evaluating the evidence base, but also being creative, adaptable to the needs of the individual, using 'bottom-up' rather than 'top-down' processing, and most of all, remembering to continually ask questions and try not to assume- a lesson learned in the doctoral study.

Section B – Research Thesis

**The Evaluation of a Psycho-Nutritional
Intervention for Young People
experiencing a
First Episode of Psychosis.**

Abstract

Introduction

People with psychosis and schizophrenia consume a poorer diet than the general population. This impacts negatively on both physical and mental health. Coupled with the effects of medication, weight gain is also probable, affecting body image, self esteem and social functioning. Mental Health Services in the UK have begun to recognise the need for nutritional care. However eliciting behavioural change in service users has been a challenge. To overcome this, this study evaluates the efficacy of a unique psychological intervention for healthy eating and weight management.

Methods

Three groups of service users were compared: those receiving the Psycho-Nutritional Intervention (PNI), standard nutritional care (treatment as usual) and a control group. Outcome measures included Nutritional Knowledge, Readiness to Change, Health Locus of Control, Decisional balance items and the Body Weight, Image and Self Esteem (B-WISE) measure. Data were collected at baseline (Time 1), one month (Time 2) and three months (Time 3).

Results

Although the PNI group did not improve outcomes to a greater extent than the other two groups, positive change over time was observed in terms of mean scores. A significant finding was that the PNI group elicited both the most positive progression in terms of

readiness to change, but also the most negative regression, explaining in part, the lack of significant results, as expected.

Conclusions

Although effective for some, the use of psychological interventions that aim to empower and enhance internal control, may be anti-therapeutic if they elicit a negative effect on self-esteem because an individual still feels unable to change. The common assumption is that interventions will elicit either a neutral or positive effect. However this may not be the case. Accordingly, it is important to not only tailor the content of interventions, but also to the process of deciding who receives them.

Chapter 1: Introduction

1. What is Psychosis?

1.1 Definition

Psychosis is a term commonly used to describe a collection of psychological symptoms or experiences that usually lead to changes in behaviour and thinking. Psychotic experiences or 'episodes' are common in a number of diagnosed psychiatric disorders such as manic depression and schizophrenia. The term 'First Episode Psychosis' (FEP) is used to describe patients, or service users, who have no formal diagnosis of a mental illness, but who are experiencing psychotic symptoms for the first time. These often include delusional thought patterns; and hearing, seeing, feeling or tasting things that are not there - hallucinations. Following treatment they may never experience another episode and therefore this one-off occurrence never leads to the development of a chronic illness or diagnosis. Hence an individual may be termed psychotic when describing the symptom of a long-term illness or a short-lived experience in itself.

1.2 Distinction with schizophrenia

A frequent misunderstanding is the distinction between FEP and schizophrenia. Whereas psychosis most commonly describes an experience or collection of symptoms, first episode psychosis, as the name suggests, refers to psychosis as an illness in its infancy, whereas schizophrenia describes a chronic illness that, when used, has usually been formally diagnosed by a Psychiatrist. Generally speaking, the aim of treatment in healthcare today is to prevent a first episode of psychosis from recurring and developing into schizophrenia.

The term 'schizophrenia' is presently used interchangeably as an umbrella term, referring to a collection of experiences and symptoms. Therefore one patient diagnosed with the illness may present in a very different way to the next. One of the key issues with the use of the word is the stigma attached to it, and the resultant label that individuals acquire; leading to potentially damaging psychological and social consequences that are in themselves far from therapeutic. As a result current schools of thought argue that the term should not be used where possible, and that as a diagnosis for such wide-ranging symptoms, it can serve no constructive purpose. As a result it is more common for those entering mental health services to encounter the term 'psychosis' in relation to their symptoms, as opposed to the diagnostic label of 'schizophrenia'. This is corroborated by Bentall (2006) who argue that diagnosis cannot be used because there is no consistent pattern of symptoms, no distinct course of treatment and no single cause for the multitude of manifestations that may present.

1.3 Symptom presentation

Both psychosis and schizophrenia refer primarily to psychotic symptoms in the form of delusions and hallucinations. Delusions refer to inaccurate interpretations and thoughts about an event, person or object; for example believing that all food is poisoned. Hallucinations refer to the experience of seeing, hearing, tasting or smelling things that do not exist in reality. This is most usually experienced in terms of individuals hearing voices that are often persecutory or malevolent. They may commonly ask an individual to carry out an action, and these voices are known as 'command hallucinations'. Usually individuals will report that the voice sounds as though it is not inside their head, but rather an external voice, as if someone else was talking to them. The voice may be louder or quieter than normal everyday voices, and individuals may or may not

recognise the voice (Nayani & David, 1996). Therefore psychosis essentially refers to thoughts and experiences that are removed from what we perceive to be a common reality.

In conjunction with unusual thoughts and behaviours, individuals with schizophrenia or psychosis will usually present with a mood disorder also. This will likely present itself in terms of depression, anxiety, social withdrawal, and a general flattening of affect (Levinson, Umapathy & Musthaq, 1999). They may also exhibit a 'thought disorder'. This includes tangential thinking, whereby the person discusses a topic repeatedly without the ability to direct conversation elsewhere; or 'thought block' which describes the event in which an individual suddenly loses their stream of thought. Equally, some individuals may struggle to conjure up thoughts of any kind (poverty of thought), whereas others are overwhelmed by a cascade of ideas that may appear with little coherence (pressure of thought) (Turner, 1997).

Schizophrenia is often described in terms of both positive and negative symptoms. Positive symptoms include the common experiences of psychosis, and are deemed 'positive' because they form an additional occurrence that the patient had not experienced before. Negative symptoms include depression, low motivation, social withdrawal, disorientation, motor retardation and anxiety. These are termed negative because they refer to a degree of functioning that is now absent or reduced, for example levels of concentration.

1.4 Epidemiology

Schizophrenia and FEP appear to occur equally in males and females, and onset is usually between an individual's late teens and their late twenties, although this typically occurs at a slightly younger age in males (Turner, 1997). The incidence rate at any one time is approximately 1 in 10,000, and the lifetime prevalence rate is approximately 1 per cent (Boydell et al., 1997). However, interestingly some researchers suggest that as many as 1 in 3 people will experience symptoms of psychosis at some point in their life (McGorry et al., 1997).

1.5 Etiological explanations

For decades, debate regarding the possible causes of psychosis has continued. At present there are several suggestions with evidence and arguments for each, although generally there is a lack of formal consensus amongst professionals. Some schools of thought argue that it can only be explained in terms of genetic factors, others claim biochemical imbalances (Meltzer & Stahl, 1976; Meltzer et al., 2003), structural anomalies (Green, 2001; Keshavan & Hogarty, 1999), social deprivation (Mueser & McGurk, 2004), poor parental attachment (Patterson, Birchwood & Cochrane, 2002), substance misuse (Spencer, Castle & Michie, 2002; Arseneault et al., 2004) and environmental causes. The latter is usually described of in terms of stress, and The 'Stress vulnerability model' (Zubin and Spring, 1977) theorises that all individuals have the capacity to withstand a certain degree of stress – emotional, psychological and physical. For a small proportion of people no longer able to cope with a stressor, the effect on the mind and body is evident in the form of a psychotic episode. This model is commonly used in healthcare services today to help patients and service users to understand their illness. Although the dispute continues, most experts would argue the

likelihood of a combination of these causative factors (Gattez & Häfner, 1995). New explanations are repeatedly being conveyed to the research arena, and the argument for nutrition, specifically a lack of nutrients in the diet, has received much attention in recent years (Peet, 2003).

1.5.1 A link between nutrition and schizophrenia

Establishing a link between diet and schizophrenia is not an easy task, as many mediating and moderating variables may yield an effect. A poor diet is associated with lower socio-economic status, and it may be that this is in fact the variable that accounts for increases in prevalence and poorer outcome in schizophrenia and psychosis. Yet empirical research suggests a potential link, due to observations of the incidence of the disease in different countries with known variations in diet, and also in terms of the common finding that people with psychosis have poorer diets than the general population (McCreadie, 2003). Several prospective studies have also observed links, for example individuals with psychosis or schizophrenia who consumed more refined sugar and dairy products had significantly poorer outcomes in terms of their illness at 2 years (Peet, 2004).

2. Treating Psychosis in the 21st Century

Throughout history mental illness has been a topic for much debate and misunderstanding. From the medieval interpretation of witchcraft, to the recurrent stigma and fear towards people with mental illness today, there remains much mystery and uncertainty. Unlike many physical illnesses, mental illness cannot always be visually observed as you would a wound, or removed on the operating table as you

would a tumour; hence there has been a lack of clarity about the existence of different mental illnesses, their causes and treatment. In the last 50 years there has been a large shift, in views regarding and the treatment of people with mental illness. Whereas at one time they would be hospitalised in large institutions, given sedating drugs and kept separate from the rest of society, today these institutions have largely closed down, and people with mental illness are treated in the community in a way that normalises their illness and provides respect.

2.1 Policy development

In the UK, the radical shift in focus regarding mental health has meant that the Government has at last played a more active role in supporting the development of new services and research in the field. This has been evident in the series of white papers and Mental Health Acts which have aimed to prioritise and revolutionise mental healthcare. The Mental Health Strategy: Modernising Mental Health Services- Safe, Sound and Supportive (1998) was one such paper that aimed to achieve this goal. Equally 'Our Healthier Nation' (DoH, 1999) and the introduction of the National Institute of Clinical Excellence (NICE), have in turn sought to systematise services based on the evidence base, and ensure effective clinical governance and audit procedures are in place. The Mental Health National Service Framework for Mental Health (MHNSF) (1999) again enabled a clear understanding about what the focus should be within mental health services. This included seven key goals:

- 1. Mental health promotion*
- 2. Social exclusion*
- 3. Overcoming stigma*
- 4. Primary care and access to services*

5. *Services for people with serious mental illness*
6. *Caring about carers*
7. *Preventing suicide*

The principal aim was to ensure high quality services that focused and evaluated the needs of the service user and their family, met specific individual needs such as cultural and age related differences, offered care for as long as it was needed and fostered networks with partnership agencies and stakeholders. One clear need that still requires addressing, and presents a role for health psychology, is the necessity for physical health promotion in mental health.

2.2 The economic implications of the disease

The cost of schizophrenia to both individuals and their family, in social and psychological, terms is significant. The financial cost to the government in treating and supporting individuals with the illness is also notably high. Reported figures suggest costs of as much as 6.7 Billion for the period of 2004 to 2005 (Mangalore & Knapp, 2007).

2.3 Multidisciplinary teams

As care for people with schizophrenia moved from large-scale institutions to the community, the introduction of mental health teams took place to accommodate this. In recent years specialised teams have been set up that target specific groups, although there can be some overlap. For example 'Child & Adolescent Mental Health Teams' (CAMHS), substance misuse, eating disorders, psychology, psychotherapy teams, and general community mental health teams. 'Assertive Outreach' teams deal with service

users with an array of mental illnesses who are difficult to engage with and require a more pro-active approach, with visits at home. 'Crisis Resolution' teams deal with the needs of service users who are at high risk, providing care on a 24 hour basis. Finally Early intervention teams work solely with young people experiencing a first episode of psychosis, who have specific needs.

2.4 Characteristics of First Episode Psychosis (FEP)

A first episode of psychosis can be a highly frightening experience for an individual who doesn't understand what is happening to them. A psychotic episode has three phases which vary in their length from person to person, and include the 'Prodrome', 'Acute phase' of illness and recovery/relapse. A psychotic episode rarely begins without prior warning, and usually there will be signs present such as low mood and social withdrawal, possibly for up to 6 months prior to onset. This period is known as the 'prodromal phase' or 'prodrome'. The acute phase is characterised by the onset of positive symptoms such as delusions and hallucinations.

2.4.1 Recovery, relapse and risk of hospitalisation

Psychosis is treatable, and many if not most people recover and continue to lead a normal life without ever experiencing another episode. However, relapse can occur to such an extreme that an individual needs to be hospitalised. Hospitalisation can occur at any time, even during a FEP. However it is now seen in mental healthcare as the last resort. Involuntary hospitalisation under the Mental Health Act, also known as being 'under section' or 'sectioned', can be a very traumatic experience for individuals and the stigma attached can be far greater than was apparent when their care was within the community. Deciding to section is usually only made if the young person is deemed to

be at a high risk to themselves or others, and is very ill. They may be placing themselves in high risk situations for example, or neglecting themselves and those they care for.

2.4.2 Suicide

Recent meta-analysis research suggests that approximately 5.6% of people with schizophrenia will commit suicide (Levin, 2005). The occurrence of suicide emphasises the need for support, help, engagement and access to services in a non-stigmatising environment so that deaths are reduced.

3. Early Intervention Teams for Young People with Psychosis

3.1 Aims and ethos

Early Intervention (EI) teams were first set up at the start of the millennium, following a recognised need to intervene early with people experiencing a first episode of psychosis, to optimise the chances of recovery and minimise the risks of hospitalisation, suicide and relapse (DoH, 2006). They consist of multidisciplinary specialist mental health teams that aim to work in the community and see service users in their own home for a variety of interventions, both medical, psychological and social, over a period of three years. First episode psychosis is a comparatively rare illness with approximately 15-20 cases per 100,000 per year (Healthcare Commission targets 2007-2008). Early Intervention Teams vary in their caseload depending on the catchment area and the nature of the inhabitants; however most inner city teams will see approximately 450 people over three years (Healthcare Commission targets 2007-2008).

Following work carried out in Australia, the initial establishment of services in Birmingham enabled a set of guidelines to be developed to disseminate the model of EI, and how it might be replicated. This was primarily achieved following the founding of the 'Initiative to Reduce the Impact of Schizophrenia group' (IRIS) (www.iris-initiative.org.uk) which brought together the practical and research evidence base. The principal document that summarised these guidelines was the Mental Health Policy Implementation Guide (MH-PIG) (2001), which aimed to describe the process of setting up, developing, running and evaluating specialist mental health teams, of which EI is one. This guide has proved pivotal in the development of EI teams across the country, to which there are now in the region of 120 teams (Healthcare Commission targets 2007-2008).

3.2 The team

As psychosis is most common in young people, EI teams were set up to help young people between the ages of 13 and 35 years. It also allows the service and interventions offered to be tailored to young people. Service-users can be referred by their GP or a mental health team or in many instances by their carer or self referral. EI teams are usually based in community settings and visit service users in their home or community, rather than in a hospital. The teams consists of a number of health professionals which typically include doctors and community psychiatric nurses; and to varying degrees may also include social workers, occupational therapists, psychologists, support workers, nutritionists and researchers.

3.3 Interventions

EI teams provide a number of different types of intervention depending on the specific needs of service users. These can include general support and counselling, financial advice, provision of information, medical treatment, psychological therapies, social skills and assertiveness training and countless more. Most service users are offered anti-psychotic medication to reduce the experience of delusions and hallucinations. However it is generally felt that medication alone is not sufficient, and that a more holistic bio-psychosocial approach to overall wellbeing is vital. Generally speaking service users are seen for a period of 3 years, and within this time they follow a 'Care Programme Approach' (CPA) whereby a systematic process of assessing and evaluating need is established, involving the family and health providers, to ensure that optimal care is offered (Policy Implementation Guide, 2001).

3.4 Future directions

EI is still in its infancy, and therefore studies are currently looking to establish what constitutes best practice in the field. Generally speaking there is a current shift in focus from more economic government based outcomes such as caseload numbers, hospitalisations and those entering employment; to individual quality of life (QoL). Hence the shift is moving from service-level evaluation to meeting the needs of individuals from their perspective, developing outcomes that are service-user led. Moreover, as services recognise the need to be innovative in terms of the care they offer, many are introducing more specialist services such as occupational therapy, social and carers groups and nutritional therapy.

4. The implications of unhealthy lifestyles in this clinical group

Patients and service users with schizophrenia or psychosis often have unhealthy lifestyles. Smoking is common, high alcohol consumption and substance misuse is often prevalent, and this group is more likely to live a sedentary lifestyle with limited exercise (Brown et al., 1999). This may either be due to poor social functioning, or a lack of motivation and energy caused by depressive symptoms or the side-effects of medication. In terms of diet, it is well documented that people with schizophrenia consume unhealthier diets than the general population (McCreadie, 2003). Generally speaking, this includes less fibre, fruit and vegetables (McCreadie et al., 1998); and more fat and sugar (Stokes, 2003).

4.1 Food and mood

The brain is significantly affected by the food we eat, in terms of its composition and functioning. The brain is largely made up water, but in 'dry form' 60% of its mass is made up of fats. Therefore the fats we eat can significantly affect its structure. Saturated fats in the diet are not good for the human brain because they make the cell membranes less flexible. Twenty percent of the fats in our brains are made from essential fatty acids omega-3 and omega-6. They are termed 'essential' because they cannot be made within the body and therefore must be obtained in the diet. Both are needed in the brain for the functioning of neurons and should be consumed in approximately equal amounts as they are found in the brain. It is estimated however that Western cultures tend to consume too much omega-6 and not enough omega-3. These imbalances have been implicated in a number of mental illnesses such as depression (Peet et al., 1998).

Various amino acids in the diet are vital for the manufacture of neurotransmitters in the brain that ensure the effective transmission of information and therefore brain function. For example, tryptophan is found in eggs and lean meat, and is vital for the production of the 'feel-good' neurotransmitter serotonin (Young & Leyton, 2002). Acetylcholine, another neurotransmitter, aids memory and concentration and is primarily found in eggs and fish (Blokland, 1995). Dopamine aids motivation and is found in fruits and vegetables (Koob, 1996) and Gamma-aminobutyric acid (GABA) which reduces anxiety and irritability, is primarily found in seeds, nuts, bananas and eggs (Lydiard, 2003).

4.1.1 Society's viewpoint

There is increasing evidence to suggest that the nutritional value of an individual's diet may impact significantly on their mental as well as physical health. It is now estimated that one in four households will have someone with a mental illness, with approximately 10% of the nation being affected at any one time (Sainsbury's Report, 2003). There are numerous debates as to why the incidence of mental illness is on the increase. These include reduced stigma and therefore the increased decision to access help, more busy and stressful lifestyles, and the current argument: changes to our diet.

The MIND funded 'Food and Mood Project' (1999), surveyed members of the general population to ascertain their use of diet and supplements for their mental health. They found that those surveyed reported the positive effects of essential fatty acids and supplements such as St Johns Wort, Ginseng, Kava and Gingko in terms of reduced mood swings, anxiety, food addictions, depression, irritability and psychotic symptoms. In terms of diet, they stated that reducing sugar intake was harder to achieve than that of

caffeine, and that changes were difficult to make due to issues such as taste preferences, craving and addictions, and the presence of too many temptations around them. This study highlights the fact that people in the general population seem willing to try to change their diet and supplement intake, and that they had experienced beneficial effects from this. It did also however highlight the necessity for help and support beyond factual advice to overcome some of the barriers mentioned.

4.1.2 A growing evidence base

There is a growing body of more thorough and experimental research suggesting the links between food and mental health. For example, a balanced diet rich in minerals and other nutrients such as omega 3 fatty acids (Peet & Stokes, 2005; Lee et al., 2006); and antioxidant vitamins C and E (Arvindakshan et al., 2003) has been linked to both the prevention and amelioration of symptoms in psychiatric illnesses such as depression and schizophrenia. Furthermore, eicosapentaenoic acid (EPA), an omega-3 polyunsaturated fatty acid, has been implicated in the treatment of schizophrenia due to the finding that symptoms improved following EPA treatment (Peet, 2003). This argument is corroborated by the fact that prior to any form of fatty acid treatment, patients with schizophrenia appear to have reduced fatty acid levels in their brains compared with controls (Horrobin et al., 1991). Diet has also been implicated in studies focusing on scholastic performance and antisocial behaviour (Lien, 2007), suggesting that improved nutrient intake produced positive effects for each area of functioning.

4.1.3 Standardising the use of diet and vitamin treatment for mental illness

Nonetheless, much of the research regarding dietary effects on schizophrenia and psychosis is inconclusive, therefore at present there is yet to be a formal protocol issued

to guide the use of diet or supplements in mental health as a treatment for symptoms. For example, Vaughan & McConaghy (1998) conducted a randomised controlled trial over a five month period to assess the effect of dietary supplements and megavitamin treatment on symptoms. The intervention group were prescribed dietary changes and megavitamins based on serum vitamin levels, whereas the control group received inert tablets and vitamin C. As might be expected, in the intervention group vitamin A, B1, B6, B12 and folate increased significantly; vitamin C increased non-significantly and vitamin E showed a decrease. Conversely, in the control group, vitamin levels remained stable other than vitamin B6 which fell unaccountably. However, importantly the study found no significant differences in terms of self-reported symptomatic or behavioural differences. Hence this study was unable to conclusively support the use of diet and vitamins as a treatment in itself for psychosis.

At present, when nutritional therapy is offered it is more likely to be offered for the purpose of enhancing physical health, primarily in reducing the risk of obesity, including the psychological consequences and the subsequent physical deficits that may result.

4.2 Food and physical health

As a result of poor diets, patients with schizophrenia have higher levels of obesity (Henderson et al., 2006). This in turn partly explains the higher rates of physical illnesses such as diabetes, coronary heart disease and hypertension that account for the reduced life expectancy and mortality rates in this clinical group (Mann, 2002). In fact, most deaths are due to physical illnesses rather than suicide and accidental death associated with the psychiatric condition. It is not clear whether a poor diet precedes or

follows the onset of illness. However alongside a greater prevalence of smoking and a lack of exercise (Strassnig & Jaspreet, 2006), risks to physical health are high and often neglected, with treatment focused on mental health.

Certain foods are known to cause the release of oxidants (or free-radicals) in the body (Fang, 2002). These are unstable atoms that are seeking an extra electron from healthy cells. In taking them they do damage to the healthy cell's DNA, that can in turn lead to illness and disease such as cancer. Oxidant foods include saturated fats and additives. There are however other foods that have an antagonistic effect on the oxidants and therefore ameliorate their negative actions. These are termed 'anti-oxidants'. Their exact action is not fully understood but it is believed that they have the ability to 'mop up' harmful free radicals in our bodies. Free radicals can also enter our bodies through sunlight, radiation and pollution, therefore increasing the consumption of antioxidant rich foods may serve to buffer the potential effects of these invaders (Pokorny, Yanishlieva & Gordon, 2001). Anti-oxidants such as Vitamin C, E, n-acetylcysteine and lipoic acid have been associated with reduced risks of diseases such as diabetes, atherosclerosis, and most commonly documented - cancer (Flora, 2007). Certain foods are frequently advertised for their antioxidant properties, for example blueberries and prunes (Fang, 2002).

Furthermore, Omega 3 acids appear to be beneficial to physical as well as mental health. For example, research suggests that increasing Omega-3 fatty acid consumption either in the diet or as supplements, may overcome the defects in insulin activity that is associated with type 2 diabetes (Carpentier, Portois and Malaisse, 2006); a common illness resulting from obesity that those with psychosis and schizophrenia are at greater

risk of. Equally omega-3 was found to reduce cholesterol levels and lipids in the blood and improve glucose and insulin metabolism, linking it to diabetes and weight loss (Mori et al., 1999). A number of studies also have supported a possible link between selenium and cancer, potentially due to its antioxidant properties, or enhancement of immune function (Fleet, 1997).

5. Anti-psychotics & weight gain

Diet is not the only factor associated with weight gain in people with psychosis. The new generation of anti-psychotic drugs- the 'atypicals' have shown marked therapeutic efficacy in terms of reducing the symptoms of psychosis and the previously problematic side-effects of extrapyramidal symptoms, such as movement disorders (tardive dyskinesia and dystonia). They do however appear to result in one significant problem: weight gain (Russell & Macke, 2001). It is not clear exactly how antipsychotic weight gain occurs. However there appears to be a hormonal interaction (Jambur et al, 2004), leading to or coupled with, an increase in appetite (Elman et al., 2006). For example, a study by Lindenmeyer et al. (2003), found that the anti-psychotics clozapine, olanzapine and haloperidol were associated with an increase in plasma glucose levels, and clozapine and olanzapine were associated with an increase in cholesterol levels; based on blood samples before commencement of medication and following an 8 week period. Conversely, the literature also suggests that a reduction in basal energy expenditure and less physical activity, may account for the weight gain (Virkkunen et al., 2002). This metabolic disturbance could also increase an individual's risk of diabetes.

There appears to be some variation in terms of which anti-psychotics lead to weight gain, with most research suggesting that Olanzapine and Clozapine have the most weight inducing potential. However even those that are deemed weight neutral appear not to be (Jambur et al., 2004; although weight gain may occur to a lesser extent, for example in the case of newer agents such as Risperidone (Ganguli, 2000).

One option in response to the side-effect of weight gain is to swap an individual's anti-psychotic to an alternative type that is believed to be associated with less weight gain. Whilst this may work for some individuals, it has also been suggested that the very drugs that lead to weight gain, are those that are most effective, and that the very presence of weight gain may be indicative of the efficacy of the anti-psychotic (Catapano & Castle, 2004). Therefore weight gain could indicate that the drug is working and the symptoms of psychosis are most likely to be reduced. Hence overcoming the weight gain might in turn result in a negative impact on symptoms if the optimal anti-psychotic is no longer used.

In a recent study of FEP cases (Strassnig, Miewald, Keshavan & Ganguli, 2007) 91% of patients on Olanzapine gained more than 7% body weight, followed by 51% of those on risperidone and 47% of those on Haloperidol. Younger patients, those with more negative symptoms at baseline, a greater number of co-medications and the addition of anti-depressants were all associated with increased weight gain. Moreover recent research suggests that in drug-naïve service users the majority of weight (72%) is gained in the first two years following the commencement of anti-psychotics (Strassnig et al., 2007).

5.1 Effect on well-being and self esteem: Further impact on mental health

Not only is antipsychotic weight gain associated with obesity and physical ill health, but the effects of weight gain can be psychological, impacting on quality of life, self esteem, body image and social functioning (Allison et al., 2003; Strassnig et al., 2003; De-Hert et al., 2006; Faulkner, Cohn, Remington & Irving, 2007). This in turn is likely to have a negative impact on mental health and may reduce adherence to anti-psychotics (Perkins, 2002). Black and colleagues (1992) report that although obesity is considered to be a medical condition, growing evidence suggests that obese patients have co-morbid psychopathology such as destructive eating, poor body image and general emotional instability related to their weight and previous attempts to control it. Furthermore, Roberts et al. (2002) report a distinct link between depression and obesity, and equally Fagiolini et al. (2003) found that 35% of individuals with bipolar meet the diagnostic criteria for obesity, again confirming a potential link. Some research suggests that women gain more weight as a result of anti-psychotics than men, and that they may be more vulnerable to the psychological impact that this creates (Ascher-Svanum et al., 2005).

5.2 Weight gain and adherence to medication

Adherence to medication in individuals with schizophrenia is often low due to the nature of the clinical group and concerns about the side effect of weight gain. Fears due to the anticipation of weight gain are likely to negatively impact on the well-being of individuals. However failing to provide realistic information about the potential consequences of the medication would be unethical. Clinicians are careful to monitor the side-effects of the medication, and most will regularly weigh their patients. Weight gain, especially if it is causing distress to individuals, may be reason enough to change

the type of anti-psychotic that is being prescribed, even if its effect on psychotic symptoms is effective (Heister & Thrower, 2005). This is due to the recognition that weight gain can lead to significant distress for individuals, even if they are informed that their weight will likely return to normal levels when treatment with medication ends.

5.3 Pharmacological treatment for anti-psychotic induced weight gain

There are also a number of pharmacological interventions for counteracting the effects of anti-psychotic induced weight gain. These include drugs such as Amantadine and Metformin (Catapano & Castle, 2004). Whilst this would seem a much simpler action to take as opposed to non-pharmacological interventions such as dietary change, the evidence is unclear regarding their efficacy (Werneke, Taylor & Sanders, 2002). In a systematic review of all interventions to control weight in schizophrenia, Faulkner, Soundy & Lloyd (2003) found that not all the pharmacological intervention studies resulted in weight loss, whereas all the behavioural or non-pharmacological studies did. Therefore they concluded that the use of pharmacological interventions could not be recommended. Furthermore this form of intervention may not be suitable for long term use, and therefore be effective in the long term. Consequently it is important to consider alternative options for managing weight to ensure adherence to optimal treatment for psychosis: eating a healthy diet and exercising more. Equally, weight management is only one part of the justification for dietary change and nutritional therapy, in a group whose poor diet has far reaching implications for their physical as well as mental health.

6. Alternative explanations for weight gain

There are a number of other possible reasons to explain why an individual with psychosis or schizophrenia may gain weight. These include the sedative effects of the medication which could lead to a reduction in physical activity and therefore reduced energy expenditure. A response to symptoms may also result in weight gain, if for example individuals exhibit delusional thoughts regarding foods or engages in binge eating as a coping strategy to deal with stress. Khazaal et al. (2006) suggest that binge eating is in fact common in this clinical group.

6.1 Exercise

In terms of weight management, most research suggests that losing weight requires a calorie-controlled diet alongside regular exercise. It is also well documented that people with psychosis and especially those with chronic schizophrenia, are less active than the general population (Brown et al., 1999). This might be explained in a number of ways. Firstly that they are less likely to leave the house and engage in activities due to their illness, for example due to beliefs about being in danger or fear of others' reactions to them. There is also evidence to suggest that anti-psychotic medication may have an effect that encourages drowsiness and sedation to some degree, such that there is little motivation to exercise. Equally once a patient becomes severely overweight, exercising becomes more difficult as a result of shortness of breath, chest and muscle pain. Hence this clinical group often engage in less physical activities that would in turn help them to lose weight.

Exercise not only helps an individual to lose weight but also improves mental health and well-being (Brown et al., 1999). Furthermore, the act of engaging in social sports

and activities has a therapeutic effect in terms of raising confidence and self-esteem, and improving social functioning.

7. Current nutritional service development in mental health

7.1 The obesity epidemic

Despite messages from health professionals and the media regarding the need to eat wholesome and nourishing food for health, obesity and poor diets are still commonplace in the general public and there are concerns that more and more people are becoming obese. There are a number of reasons why this may be occurring, including changes in dietary habits, increases in convenience foods as a result of lifestyle modification, and genetic factors. Equally it has been argued that a number of psychological changes are occurring. For example, the possibility that individuals are developing deficits in their conditioned ability to recognise satiety, the susceptibility to ever-growing temptations, a lack of willpower and failure to recognise the effects of eating habits on health. Obesity has therefore been a target for government reform in recent years. Recent Government guidelines (NICE, 2006) have focused on the need for prevention, identification, assessment and management of overweight and obese adults and children in the UK.

Accordingly, there is growing appeal for interventions in mental health that target physical health, in particular changing unhealthy related behaviours such as poor diet, a lack of exercise and smoking. In conjunction with reduced morbidity, mortality and increased quality of life for individuals, such interventions are important in economic terms as they reduce the likelihood of prolonged contact with mental health services and hospitalisations, alongside the same contact in physical health care settings. However

clinicians in the field of mental health often lack the knowledge and training to provide services to target physical health issues (Compton et al., 2006). Focus is placed on the mental health of the patient at the neglect of physical health simply as a result of priority, or the lack of expertise and resources. Similarly, general medicine and healthcare may not be equipped to deal with the specific requirements of patients with mental health problem, and generic obesity-targeting weight loss programmes may not be appropriate for particular clinical groups such as FEP, and hence require suitable adaptation.

7.2 What constitutes obesity?

There is a point at which an individual is no longer considered to be overweight but is classified as obese. In practical terms, this means that their weight, and in particular their adipose (fat) tissues have increased to such an extent that they are at a significant risk of health complications. Being overweight increases anyone's risk of ill-health. However reaching the point of obesity becomes a clinical condition in itself as the risks are now at a critical level (NICE, 2006). Ascertaining whether or not an individual is obese or overweight, usually involves measuring their 'Body Mass Index' (BMI) (Wilcox, 1994). This is essentially a rough estimate of body fat and is measured by dividing an individual's weight in kilograms by their height in metres squared. Another commonly used estimate for obesity is measuring waist circumference or waist-hip ratio (WHR). As most excess body fat is stored around the waist, this gives an indication of risk. An important issue with BMI and weight as an outcome measure is that they do not take into account muscle mass. For example, an individual might exercise, and put on muscle which weighs more than fat. Hence their BMI and weight appears to have increased, when in actual fact they may have lost fat, but gained muscle, which

generally speaking is far healthier. To overcome this problem, WHR can be used, as it indicates a gain or loss of adipose tissue around the abdomen where it is most unhealthy to carry it, and is unaffected by a gain in muscle mass.

<i>Classification</i>	<i>BMI (kg/m²)</i>	<i>Risk of co-morbidities</i>
Underweight	< 18.5	Low (but risk of other clinical problems increased)
Normal range	18.5 - 24.9	Average
Overweight	≥25.0	
Pre-obese	25.0 – 29.9	Increased
Obese class I	30.0 – 34.9	Moderate
Obese class II	35.0 – 39.9	Severe
Obese class III	≥40.0	Very severe

Figure 1. Body Mass Index (BMI) classification of overweight adults (WHO Report, 2000)

7.3 World Health Organisation Recommendations for preventing excess weight gain and obesity

In general the recommendations for preventing obesity and related illnesses is commonsensical, and includes recommendations in terms of foods to increase and decrease the uptake of, and the need for increased physical activity. The policy principles (WHO, 2002) include specific dietary changes that decrease the risk of particular chronic illnesses, and consider different cultures and population groups, for example those from the poorest communities. In addition, there is an emphasis on the need for a lifelong perspective that considers optimal nutrition and disease prevention from infancy through to old age. For example encouraging mothers to breastfeed and children to eat breakfast and engage in sporting activities. The report also called for the need for better communication, alliances and partnerships; across services, the food

industry, government and the media. It highlights the need to enable choice and control, improve legislation, ensure that a healthy diet is available to all and make the most of health services who could be involved in this drive.

7.4 NICE guidelines for Obesity

In 2006, The National Institute for Health and Clinical Excellence (NICE) published 'Guidance on the prevention, identification, assessment and management of overweight and obesity in adults and children' (NICE, 2006). Similarly to the WHO report, it emphasised the need for intervention, partnership working and education for the general population. It highlights the necessity to consider psychological factors, suggesting the need to include multiple components, assess readiness to change, include behavioural interventions, set realistic goals for lifestyle change and provide tailored information. In terms of medication and surgery to treat obesity, the former was only considered appropriate once all dietary, exercise and behavioural approaches had been explored and if other co-morbidities existed. The latter was only recommended in exceptional cases for those with a very high BMI. It is not highlighted however, whether these medical interventions and indeed psychological interventions, were appropriate for individuals with mental health problems.

7.5 Nutrition Services in Early Intervention

The NICE guidelines regarding obesity have formed the basis for nutritional intervention in, as far as the author is aware, only one Early Intervention Team to date in Rotherham, South Yorkshire. This team employs a full-time nutritionist to advise regarding dietary change for optimal physical health, mental health and for the purposes of weight management. This in turn has led to the development of an 'Integrated Care

Pathway for Nutrition in Mental Health', which is currently a work in progress, as it is a novel service for this clinical group. At present the service includes an assessment of current dietary behaviour using 4 x 24-hour recalls of food consumed, which is then inputted into a computer programme: 'WISP V. 3'. The output provides a breakdown of all the nutrient levels that are currently being consumed and the recommended amounts that should be aimed for. This allows a clear assessment of where certain food groups, such as fat and sugar are being consumed in too great an amount or in the wrong form, and where other micro-nutrient intakes such as selenium and folate are not adequate. Feedback is then provided to the service user explaining the dietary changes that are needed in basic terms, why they are important for health, what foods are recommended and in what amounts. There are however a number of problems with this methodology as 24-hour recalls often lead to inaccuracies in terms of poor memory, quantification errors in using the software, interviewer bias and intra-individual variation (Webb, 1994).

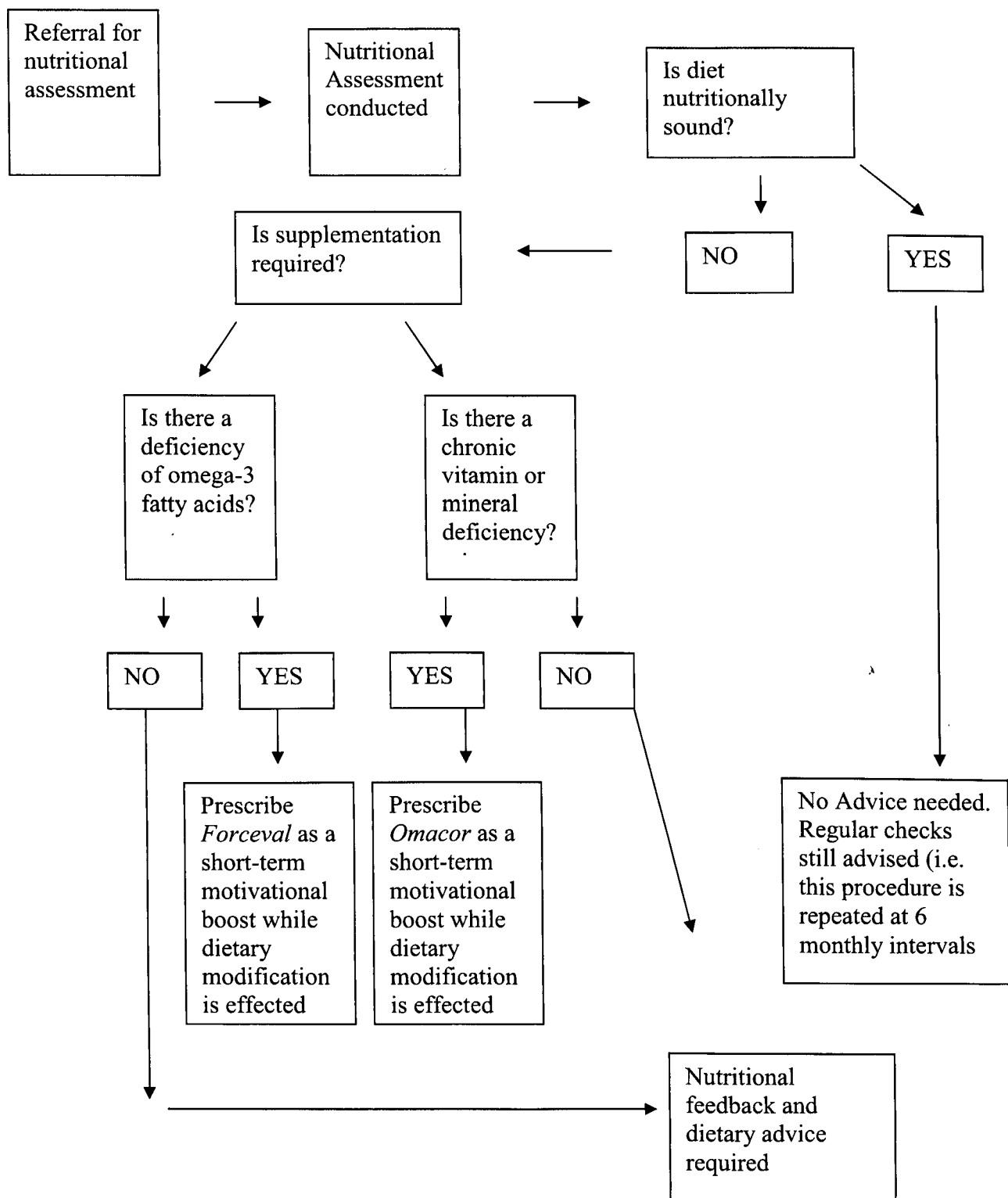


Figure 2. Mapping for Nutritional Assessment & the Integrated Care Pathway.

The current ICP for nutritional assessment and intervention (Figure 2) includes common issues cited by the nutritionist, such as irregular meal patterns, a high intake of processed foods, alcohol, saturated fat and low protein, omega 3 fatty acids and various mineral intakes. It then includes a section indicating suggestions for interventions which include nutritional information, basic physiological information, practical advice and recommendations. The ICP is systematic in its structure and includes various targets to achieve at particular time points in the period the client is seen by the early intervention team. Finally the ICP includes a section to indicate why an intervention may be repeated, which includes a deterioration or improvement of mental state, drug or alcohol intoxication, poor motivation, refusal and unavailability. It includes a 'Dietary & Motivational Assessment Sheet', which provides a space to record the client's perception of their eating habits and any need to alter this. Whilst this recognises the importance of understanding the views and beliefs of the individual, it is open-ended and unclear in its remit, in so far as it does not establish clearly the exact information required, and how it could be used to support behavioural change.

Discussion with the team nutritionist suggested that some service users claim to know what they should eat but felt they needed more help to make changes. For that reason, within Rotherham Nutritional service there remains a need to consider the psychological reasons why individuals consume a poor diet, and may struggle to change. This should include how these may be overcome in a systematic yet tailored way that enables a nutritionist or nurse to use basic psychological techniques to optimise the efficacy of the nutritional intervention.

7.5.1 Specific nutrition interventions for this clinical group

Choosing to provide interventions that are offered to the general public for improved diet and weight management, may not be sufficient for this clinical group. The reasons for this include the need to consider the antecedent factors involved in their poor diet and weight gain (e.g. medication, family relationships, mood), and also the effects of their symptoms and possible poor cognitive functioning on their ability to comprehend and engage in the intervention. For example, in the general population, Vogels and Weterterp-Plantenga (2007) found that the ability to maintain a high level of restraint was associated with long term weight maintenance. As this issue may be even more difficult in this clinical group, interventions that provide strategies that are habitually easy to adopt and maintain are likely to be more successful. Therefore simply providing information available to all or encouraging participation in slimming groups is unlikely to be appropriate for people with psychosis, who may struggle with the social requirements of attendance, lack motivation and require information pitched at an appropriate level.

In the case of FEP, interventions used to target both improved diet and weight gain due to anti-psychotics can have a three fold effect:

- By reducing the risk of physical ill health;
- By improving the symptoms of psychosis;
- By improving adherence to anti-psychotics due to fewer concerns about the side effect of weight gain;
- By improving energy levels and body appearance that in turn will further boost well-being, social functioning and quality of life;

- By empowering individuals to take control of their own health with the use of a less stigmatising therapeutic intervention, than pharmacological medication.

According to the Policy Implementation Guide (2001), treatment for first episode psychosis currently consists of both drug and/or psychotherapy. This usually involves the use of atypical anti-psychotic drugs alongside psychosocial interventions such as cognitive behavioural and family therapy. Protocols exist regarding the use of nutritional therapy in mental health such as: 'Food and mood: a complimentary treatment for mental health problems' (Geary, 2000); however little is known about exactly how they should be administered in practical terms. Most research in the field looks at patients with schizophrenia, therefore there is a call for the consideration of FEP in young people specifically, especially as there is some evidence to suggest that young age is associated with greater weight gain due to anti-psychotics (Lane et al., 2003).

7.6 Nutrition and Mental Health: Current developments

The link between nutrition and mental health has been documented for some time. However putting this information into practice has been a slow process, despite clear arguments for nutritional therapies (Amani, 2007). At present the majority of mental healthcare teams do not employ a nutritionist or consider nutrition as part of standard practice. No clear guidelines exist and supplements such as Omega-3 are rarely prescribed. Rotherham Early Intervention Team, with it's full-time employment of a nutritionist, is therefore highly innovative and working at the forefront. As the heightened media attention focuses on the role of omega-3 and nutrition, government

guidelines appear to be at last following suit (Associate Parliamentary Food and Health Forum Report, 2008).

8. Nutritional Therapy in everyday practice

8.1 What constitutes a good diet?

It is generally accepted that a diet rich in vitamins and minerals, fibre, folate, and low in refined carbohydrates, saturated fats and salt is the ideal (Geissler & Powers, 2005). In practical terms the advice is commonplace: increase consumption of fruits, vegetables, pulses, grains and whole-wheat foods. Equally, reduce the consumption of fat, salt (sodium), refined sugars, processed foods, caffeine and alcohol. Our dietary habits have changed significantly over the last century, in that we now consume far more processed foods containing additives, more meat and less fish (BBC News, 2003).

8.2 Why do many dietary change measures fail?

Originally, the nutritionist's main goal was to educate individuals on the subject of what constitutes a healthy diet and how this can be put into place. This information however, assumes that individuals will want to make changes having read or listened to the information. Likewise, information presented is often generic and not appropriate for all. Hence unrealistic goals may be set that do not meet the precise needs of the individual. There are a number of other reasons why dietary interventions may fail. These include physiological and genetic reasons. For example some research suggests that homeostatic mechanisms exist that regulate body weight and try to defend against weight loss. This has been termed the 'Set-point theory' (Harris, 1990) and essentially argues that our bodies are genetically programmed to be within a certain weight.

8.3 The need to consider psychological factors

There are undoubtedly a number of psychosocial reasons that explain difficulties in maintaining changes to our diet. These include a lack of social support, social comparison and cognitive-behavioural barriers such as a lack of willpower and motivation, or a lack of the provision of strategies to overcome barriers to maintaining change. Equally the role of emotions can affect eating, with an increasing literature in relation to eating disorders, such as binge eating disorder and obesity. For example, the effect of cravings, habits and eating to deal with emotional problems (Blair, Lewis & Booth, 1994). One of the key concerns for obesity research should be the lack of consideration of cognitive processes and the psychological differences between successful and unsuccessful weight loss and dietary change strategies. Emphasis has often been placed on the psychological issues that lead to a poor diet and obesity, such as personality types, coping strategies and eating styles, rather than considering these processes as the foundations for intervention.

8.3.1 Emotional eating

A substantial amount of the research concerning emotional eating is in relation to eating disorders such as anorexia nervosa, bulimia nervosa and binge eating. The relationship between emotions and eating seems clear. For example Pinaquy et al. (2003) found that alexithymia (the inability to express feelings in words) predicted emotional eating in binge eating disorder. Associations were also found between anxiety and depression. Additionally, Cargill et al. (1999) found potential relationships between binge eating, self-efficacy, body image and depression; again suggesting the possible links between cognitions and emotions in terms of eating. Emotions are also highly involved in the process of dieting, including the detrimental feelings of guilt, shame, anxiety, failure,

social pressures and self-doubt (Roth, 1984). Figure 3 illustrates the inter-relationships between dieting and emotions.

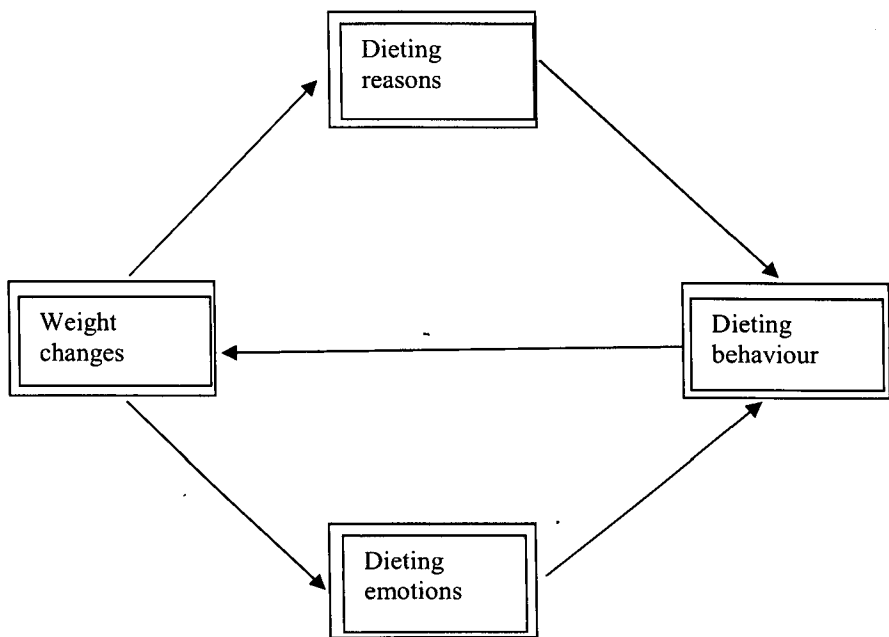


Figure 3. The link between dieting and emotions (Roth, 1984).

How an individual thinks and feels inevitably affects what and how they eat and the relationship they have with food (Roth, 1984). Eating disorders are often the result of unresolved psychological issues and patterns of habitual eating may occur in response to an individuals' mood. Mood can affect what foods people eat, when and where they eat and how much. What is eaten can also influence mood. For example certain foods affect neurotransmitters in the brain, affecting feelings of well-being; for example having consumed caffeine, sugar or alcohol. Patterns of eating can be established in childhood to the extent that we attach certain beliefs or emotions to eating. For example 'treats' during childhood, social events and celebrations include the consumption of unhealthy foods. The association of pleasure and indulgence in eating unhealthy foods can make it all the more difficult to challenge, especially if their consumption leads to

improved mood. Thus eating can be used as a form of self-medication and a mood enhancer. Unfortunately the very foods that may initially lead to improvements in mood in the short-term, may in the long-term do the most damage, or at least fail to provide the mental health benefits of more healthy dietary alternatives.

Investigation is needed to establish the antecedents and mediating factors involved in the development of body dissatisfaction, including factors such as the media, ethnicity, culture, class, beliefs, perceived control and the influence of significant others (Ogden, 2000).

8.3.2 Conditioned responses to stimuli

According to Schachter's theory, termed the 'Externality Mechanism of Overeating' (Schachter & Rodin, 1974), people become obese because they are overly sensitive to external stimuli, including cues to eat. Therefore an obese individual and someone of a normal weight may come into contact with food and eating related cues, such as observing others eating, seeing an advert for food, the smell of cooking or discussion about food; however react in different ways. Whereas the person of a normal weight may not feel the desire to eat on processing these stimuli, an obese person may become fixated on the notion and a physiological and psychological response occurs such as salivating or craving foods, resulting in eating which will often not be due to hunger. Therefore obese and perhaps over weight individuals appear overly sensitive to socio-affective triggers. Ogden (2000) also argues that whilst displaying an amplified responsiveness to external cues, obese individuals are under-responsive to internal cues such as the physiological signs of hunger, satiety and taste.

One of the key problems with attempts to lose weight in the form of restrictive diets, is that the very suggestion that some foods are forbidden can lead to increased attention and thoughts relating to these foods, therefore escalating the problem. Ogden (2000) argues that dietary restraint not only precedes overeating, but directly or indirectly leads to its occurrence. The subsequent feelings of shame when these foods are eaten, or the sense that self-deprivation is in fact a form of punishment, can potentially lead to further disordered eating (see Figure. 4). Hence restrictive dieting often fails and can emphasise and worsen the cognitive-behavioural aspects of eating behaviours. This supports the idea that healthy eating for life is a preferred intervention for long-term weight loss and improved physical and mental health, rather than restrictive short term dieting.

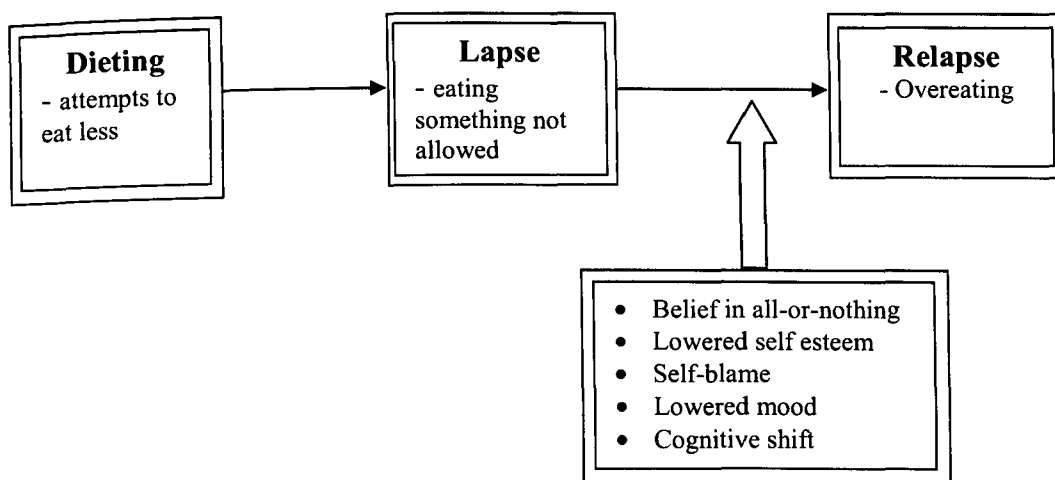


Figure 4. The negative effects of dieting (Ogden, 2000)

9. Psychological interventions for weight management and improved nutrition

9.1 Systematic review findings

The systematic review (See Section D of the portfolio) suggests that psychological interventions for weight management in people with psychosis, schizophrenia or

schizoaffective disorder can be effective, at least in terms of short-term outcomes. Interestingly however, all of the publications reviewed focused on weight management as the primary target outcome, as opposed to improved diet for non obesity-related physical and mental health. In the majority of cases, only service users deemed to be in need of weight loss, or at risk of obesity were included, therefore excluding individuals that would still benefit from a healthy eating intervention, for their mental health and non obesity-related physical illness. Hence the key finding in this review is the significant absence of research that considers improving diet for general health in this group, as opposed to just for the purpose of weight loss.

In terms of the type of intervention employed, the most effective regarding weight loss was the multi-modal intervention with motivational interviewing (MI) (Menza et al., 2004). This intervention also ascertained an individuals' 'Stage of Change' which provides useful information regarding their motivation and intention to act, including whether this is influenced by previous attempts to change. As a result it can facilitate appropriately pitched interventions salient to the position of the individual.

There appeared to be little difference between the CBT interventions compared with the purely behavioural approaches, which produced less successful outcomes. This could be explained in a number of ways. Firstly, unlike the multi-modal design, the cognitive-behavioural and behavioural approaches may fail to provide a suitably tailored element that considers motivation for the individual. Equally, the focus of psycho-education and MI was to offer a modular approach in multiple formats. MI encourages service users to explore their ambivalence about change in a non-confrontational and empathic manner. Whereas CBT and behavioural models may focus on challenging and ultimately altering

negative thoughts and behaviours, MI encourages reflection and the generation of problem-solving strategies, emphasising personal choice and control in the process. Hence it uses many of the tenets of person-centred counselling (Rogers, 1951), for example reflective listening skills on the part of the clinician.

9.1.1 Can individuals with schizophrenia engage in interventions?

The study by Brar et al. (2005) and Weber & Wyne (2006) illustrates that good compliance rates are possible in this clinical sample, indicating that levels of motivation may be similar to that of normal populations, for example weight watchers groups. According to Wernecke et al. (2003), there may however be potential problems with attempting to engage participants at different stages of their treatment. For example, those experiencing a first episode of psychosis may begin to associate weight gain with the anti-psychotics and fear experiencing this side effect to the extent that they do not adhere to their medication. Equally they may be too ill to adhere to a diet or exercise plan if they are in the acute phase of their illness.

9.1.2 Potential Issues

There are a number of key criticisms that can be made regarding the papers extracted for the review and previous research of this type. Many of the studies can be criticised in terms of reliability and validity due to small sample sizes, a lack of control group, poor follow-up, retrospective self-reports of weight, a wide age range and lack of randomisation. A potential explanation for this is due to the ethical implications of not offering the intervention to all that would benefit from it.

9.1.3 The need to focus beyond weight loss

One of the key issues with the studies summarised in the systematic review is the fact that they concentrate solely on weight loss by means of calorie restriction, rather than improving healthy eating per se. Whilst this is undoubtedly an important issue for this clinical group, the importance of a healthy diet for mental as well as physical health, despite the moderating effects of being overweight, should not be overlooked. There may be a number of patients who are of a healthy weight. However they have an unhealthy diet and are therefore still at risk of dietary-related physical illness, even if they are not at risk of obesity-related illness. These individuals would have likely been overlooked in all of these studies because they would not have reached a particular weight threshold, or the required BMI level.

The systematic review also suggests that depending on the chronicity of the illness and the length of time within which the patient has been taking anti-psychotics, will influence whether or not the intervention should focus on weight loss or the prevention of weight gain. For example, those who have been taking anti-psychotics for some time and have gained considerable weight should aim for weight loss; however conversely, those experiencing a first episode of psychosis and recently commenced medication will be aiming to prevent or reduce the amount of weight they gain.

These studies do not always indicate the exact dietary changes that were recommended in order to help patients to lose weight. An individual may lose weight but that does not necessarily indicate an improvement to their diet. For example they may eat a principal diet that is high in saturated fat and refined sugars. By reducing the amount of these foods that they eat, they lose weight. However their diet remains very unhealthy.

Furthermore, it is not clear in what ways the patients understood the information that was being presented to them in terms of how they put it into practice, for example to what degree they understand the amounts and variety of foods that they should be eating. For instance, patients may genuinely believe that their diet is now healthy if they consume 5 bananas a day on top of their currently unhealthy diet. They do not understand therefore that it is important to vary the healthy foods that are consumed, and that it is equally important to cut down on unhealthy food consumption as well as increase the uptake of healthy foods. The FEP group may exhibit cognitive deficits that result in similar misinterpretations. It is therefore important that interventions consider the extent to which service users put information into practice.

9.1.4 Considering a specific homogeneous group

Another key issue with the findings of the research is that they predominantly include studies that used participants from a wide age of 18 up to 65 years. Many include an Analysis of Covariance (ANCOVA), which ensures significant results having removing any effect of age. Nonetheless, it is probable that interventions that are not tailored to a specific age may be less effective. For example, it may be easier to change eating habits in a younger group who are just beginning to become independent and cook for themselves. Equally age is likely to have an effect on activity levels and metabolism that may influence weight loss. In the case of FEP patients or service users, who are invariably between the ages of 18 and 35 years of age, there may be specific considerations that would aid the efficacy of the intervention, for example who cooks, what their friends and family eats and their beliefs about healthy eating.

9.2 The wider research evidence base

There were a number of sources of research that weren't included in the systematic review. These include an existing systematic review (Bradshaw et al., 2005) that measured pharmacologic as well as non-pharmacologic interventions. They do however provide some useful key points and issues that should be considered in the design of healthy eating and weight management interventions. Bradshaw et al. (2005) emphasise the importance of both psycho-education and motivational components in the most effective interventions. They also highlight the need to ensure that interventions can be replicated easily in the real world, as many of the studies take place in inpatient settings and involve giving participants set meals (Jeffrey et al., 1993). Hence there is a greater degree of control than may be likely in community settings, leading to questions regarding the ecological validity of the intervention. Furthermore, in a discussion of weight gain interventions in Green et al. (2000), the importance of tailoring to the exact cultural requirements of the particular clinical group was also illustrated. They also emphasised the need for more sophisticated behavioural interventions provided in a modular approach to enable salient information to be understood, applied and maintained (Green et al., 2000).

9.2.1 What constitutes an effective intervention in terms of percentage weight loss?

According to Brar et al. (2005) research suggests that even small degrees of weight loss in moderately or severely obese individuals are associated with health benefits. Therefore the key question is what degree of weight loss is significant? Is it satisfactory if there are significant differences between the intervention group and the treatment as usual group? To gain statistical significance may require a difference in percentage

weight loss that is unrealistic or does not need to be achieved for 'clinical significance'. Having consulted with a nutritionist, it was generally agreed that any amount of weight loss was clinically significant, especially as the psychological empowerment that it can create is of therapeutic value also. According to Alvarez-Jimenez et al. (2006) a 7% increase in weight would act as the cut-off for clinically meaningful weight gain. Conversely, Weber & Wyne (2006), propose that as little as a 5% increase in weight significantly increases the chances of co-morbidity. According to Everson et al. (1998) this is correlated with as much as a 200% greater risk. This suggests that conversely, a decrease in weight of as little as 5% would significantly decrease these risks. Hence this supports the notion that small amounts of weight loss or prevention of weight gain can have far-reaching effects.

At the same time, at the beginning of treatment for FEP, the effects of anti-psychotic induced weight gain is likely to be at its most considerable. Therefore intervening at this point to prevent weight gain may be wise, and the findings of an intervention may focus more on reducing the amount of weight gained, rather than actual weight loss per se, referring to 'weight management' rather than 'weight loss'. This suggests that weight gain prevention should be viewed as a separate entity to weight gain reversal, each requiring distinct interventions (Bushe et al., 2005).

A review of the research appears to suggest that a modular tailored approach is most effective for the general population, and this is likely to be even more true of this clinical group who may have very specific needs in relation to their illness and lifestyle. However, meeting needs may not always be practical in terms of time and cost. For example, Perri et al. (1987) found that interventions that incorporated maintained

therapist contact were more effective than those with peer support or standard behaviour therapy alone. Perri, Shapiro & McAdoo (1984) also argued the need for relapse prevention and post treatment contact for weight management to occur in obese individuals. This can be problematic unless interventions are offered in a group setting, due to the pressure on time and resources. However, group sessions may not be appropriate for individuals with psychosis if there are fears of talking in front of others or a need to provide individualised attention and a more tailored approach. The length of time that an intervention is offered for is important. If face-to-face therapist contact cannot be maintained over time, then alternative options could be put into practice, for example brief maintenance training for family members and other health professionals, self-help guides and telephone support. The research suggests that longer interventions produce more effective results in terms of the maintenance of weight loss in obese patients (Perri et al., 1989), and this may apply equally to healthy eating, hence considering options of this kind that are feasible given that monetary and time constraints is key.

9.3 Psychological Interventions to improve the efficacy of nutritional therapy

The findings of the systematic review appear to reinforce the notion that the addition of a psychological intervention can help service users to improve their diet. However it is not clear whether this is beneficial over and above simply offering nutritional advice as a nutritionist would. Although no studies have compared simple nutritional or dietary advice with a psychological intervention, the authors' experience of working in an Early Intervention Team for Young People with Psychosis would support the notion that a psychological intervention could lead to improved outcomes. This is due to the fact that the nutritionist in the team reported that dietary advice was often not put into practice by

service users and therefore there was a need to intervene to understand why. This makes sense in terms of the characteristics of the clinical group, because many of them will encounter numerous obstacles to making dietary changes, coupled with the effects of medication, a lack of social support, financial constraints and cognitive deficits which would undoubtedly affect their ability to put the information into practice. In fact, most studies have either adapted weight loss programmes used in the general population to meet the needs of this clinical group, or designed a tailored intervention that considers these specific needs, and is pitched at an appropriate level.

Based on the findings of the systematic review, the most effective intervention (Menza et al., 2004) used tailored approaches that incorporated a number of techniques. These included self monitoring, stress management, stimulus control, problem solving, social support, motivational counselling and an emphasis on personal control. Each component was adapted depending on the needs and cognitive functioning of each participant. The other studies report similar methods. However gaining clarity regarding what they involve can be challenging. The following aims to summarise the key concepts related to these approaches.

9.3.1 Psycho-education

The term 'psycho-education' is used interchangeably in the literature, but generally refers to an intervention that provides participants with information, in this case regarding the importance of healthy eating and weight management, but also considers psychological techniques in terms of how this information is presented and also how it might be put into practice, for example with the use of pneumonics to aid memory (Littrell et al., 2003).

9.3.2 Cognitive Behavioural Therapy

Cognitive behavioural therapy (CBT) (Beck, 1975; 1993) refers to a popular branch of psychological therapy used in the treatment of a range of disorders including anxiety, depression, posttraumatic stress disorder (PTSD), eating disorders and phobias. It considers both 'cognitions' (thoughts) and behaviours in relation to illness in terms of how faulty patterns of thinking impact on our behaviour and therefore mental well-being. In practice CBT is similar to any other form of counselling or psychotherapy in that it usually involves one-to-one sessions with the patient and looks to understand their appraisals of situations and themselves. The format is however more structured than is common in many other therapies and may require the patient to complete homework, for example to rate their levels of perceived distress in certain situations, or their thoughts at particular times of the day in relation to a particular subject. Typically CBT involves a number of stages, including the recording of thoughts, feelings and behaviours and homework to test emerging theories regarding the inter-relationships that exist amongst these.

There is limited research that has used CBT techniques in terms of healthy eating, although there is a wealth of information regarding its use with eating disorders. For example Agras et al. (1997) evaluated the efficacy of CBT for managing weight in obese individuals with binge eating disorder. One study that did focus on the use of CBT amongst obese women found that a modified CBT approach that didn't focus on weight loss, in comparison to a standard CBT approach that did, led to weight loss at yearly follow-up and improved psychological well-being (Rapoport, Clark & Wardle, 2000). This might be explained in terms of a reduction in stigma, pressure, guilt and self blame that might be experienced by the individual. The aim of eating healthily may

elicit fewer emotional appraisals, proving to be a more salient and obtainable goal than the goal to lose weight.

In terms of use with individuals with psychosis, CBT has been used extensively to alleviate symptoms and deal with stress, suggesting that the techniques are appropriate for this clinical group. Khazaal et al. (2006) conducted a randomised controlled trial (RCT) study to compare CBT with a brief nutritional education programme for weight management due to anti-psychotic medication, in individuals with psychosis. They focused on weight-related cognitions and binge eating, finding that those in the CBT group lost more weight at 24 weeks and also exhibited improvements in binge eating symptomology and weight-related cognitions. Specifically, the intervention included self monitoring of eating behaviour, cognitive restructuring of maladaptive cognitions, behavioural practical sessions including tasting sessions, recognising hunger, psycho-education and exercise.

Guided self-help cognitive behavioural therapy has also been used with patients with binge eating disorder and those with obesity. However, Grilo & Masheb (2005) found that this form of CBT was effective for binge eating disorder but not obesity. This supports the findings of the systematic review which suggest that modular-oriented motivational interviewing and psycho-education may be more effective interventions for weight loss than CBT and behavioural approaches. CBT may instead be most effective for eating and dietary behaviours that are related to mood and emotion. Undoubtedly unhealthy eating and weight gain may be related in some degree to emotional eating and this should be assessed and considered at the point of intervention.

9.3.3 Motivational Interviewing

Motivational Interviewing (MI) is another form of psychological therapy that incorporates a client-centred collaborative approach in the exploration and eliciting of behaviour change. It has been used to help patients overcome alcohol and drug addiction for example, and helps to guide participants to actively resolve the ambivalence that they have towards behaviour change without an authoritarian approach (Rollnick & Miller, 1995). MI aims to encourage reflection and the generation of problem-solving strategies, emphasising personal choice and control in the process. Hence it uses many of the tenets of person-centred counselling (Rogers, 1951), for example reflective listening skills on the part of the clinician.

According to Scales & Miller (2003), a therapist may need to support individuals experiencing a number of 'patient resistant behaviours', including arguing about the accuracy of information, negating and ignoring. These issues may include blaming others, being unwilling to take responsibility and lacking attention. A therapist is required to therefore 'roll with the resistance' experienced, with the assumption that its existence is likely.

As an intervention in its entirety, MI can consist of one brief meeting (5-10 minutes) or a formal session (1- 2 hours), with the number of sessions offered depending on the behavioural change goal and the needs of the individual. In practice MI includes the following elements based on Miller & Rollnick's work:

- 1. Expressing appreciation when appropriate*
- 2. Being optimistic about change*
- 3. Using open-ended questions*

4. *Listening with empathy and building rapport*
5. *Working as a collaborator*
6. *Recognising the normality of having mixed feelings- stimulating discrepancy and self evaluation to resolve ambivalence*
7. *Avoiding arguments*
8. *Matching strategies with the individuals' state of readiness- assessing perceived importance and ability to make changes*
9. *Providing feedback with permission*
10. *Giving advice sparingly- MI focuses on individuals forming their own conclusions rather than being told what to do.*
11. *Providing a menu of options*
12. *Using summaries*
13. *Asking for a decision to change*

In a systematic review of motivational interviewing in physical health care settings (Knight, McGowan, Dickens & Bundy, 2006), MI was found to be effective in terms of psychological, physiological and lifestyle change outcomes in a number of specialisms including heart disease, asthma and diabetes. Nonetheless the authors did also highlight the need for future work to consider the degree of MI training, skills and duration required to provide more clarity in this developing field.

Reniscow et al., (2002) conducted a study with healthy African-Americans, entitled 'Healthy Body, Healthy Spirit', a randomised controlled trial which compared three groups: a standard nutrition and physical activity intervention, a tailored self –help nutrition and physical activity intervention, and the latter with additional telephone calls

consisting of an MI intervention. The MI intervention was found to be most effective in terms of increased fruit and vegetable intake, although physical activity also improved. An interesting addition to this intervention was the use of a ‘values clarification strategy’ based on the work of Miller & C’de Baca (1994). This originally involved presenting individuals with 70 values and asking them to rate those with the highest personal importance and select around 5 that are the most important. In this study, a smaller number of values were used as illustrated in Figure 5. Clients were asked to briefly discuss why these issues were important, their beliefs in relation to them, and whether there was any relationship between this particular value or goal, and the health behaviour that was being considered for intervention. This was deemed to be a highly effective component of the intervention and elicited ‘change talk’.

Good spouse/partner	Successful	Not hypocritical
Good community member	Independent	Energetic
Strong	Attractive	Considerate
On top of things	Disciplined	Youthful
Competent	Responsible	
Spiritual	In control	
Respected at home	Respected at work	

Figure 5. Table showing values included in Miller & C’de Baca’s study.

In a systematic review and meta analysis of the literature, Rubak et al. (2005) established that motivational interviewing had a significant effect on both psychological and physiological diseases and that even a brief session of MI lasting only 15 minutes, resulted in an effect in 64% of the studies analysed. These studies were compared with

traditional advice giving, and advocate that MI is an effective intervention for the treatment of a broad range of behavioural problems and diseases. Interestingly, they also found that both psychologists and physicians as therapists obtained an effect in 80% of the studies. However other professionals achieved an effect in only 46% of the studies. This implies that MI requires some degree of specific and additional training for health professionals who have less experience of therapeutic techniques and communication. Whilst there is little formal training for MI, unlike CBT, it is generally considered that clinical skills can be built upon to perform this type of intervention. Thus in designing interventions consideration should be given to the training needs of those administering them.

Using MI with individuals with psychosis may prove more constructive than using it with the general population or other clinical groups due to the fact that adherence and engagement is often already compromised due to the nature of the illness and symptoms (Barkhof et al., 2006). A lack of motivation and self-efficacy to make changes can be common, therefore a tailored program that aims to explore ambivalence and the nature of this apathy in a non-judgmental way, is likely to be more successful than other generic methods such as basic counselling. Furthermore there is some preliminary research to suggest that internet based MI may also be effective, again increasing the accessibility for individuals who find one-to-one work initially intimidating (Webber, 2008).

10. Theories of behaviour change

The research to date has clearly utilised a wide variety of psychological techniques to help those with psychosis and schizophrenia improve their diet and manage their weight. Nevertheless, as previously stated many of these interventions, although effective in the short term, do not produce sustained effects at follow-up. In the Health Psychology literature, a substantial amount of research has focused on models and theories of behaviour change that can be used to help explain why we choose to change a behaviour and also why in turn, this effect may be short-lived. In using these models combined with psychological techniques, the chances of more sustained effects may be more realistic. Equally using them to ascertain beliefs and intentions prior to the onset of intervention can help guide the therapist to tailor his approach accordingly.

10.1 The Health Belief Model

The Health Belief Model (Becker et al., 1977) (Figure 6) posits that behaviour change will depend on an individual's beliefs relating to four key areas: i) The severity of a potential illness; ii) The likelihood or susceptibility to that illness; iii) The perceived benefits of taking action to change; and iv) The perceived costs of taking action to change. Therefore in the case of dietary change, participants are likely to form intentions to change, and act on these if they feel that the likely illnesses associated with poor diet and obesity are severe, if they recognise their subsequent vulnerability to these, and if the perceived benefits of making a change outweigh the perceived costs. For example they perceive that any costs in terms of effort, time and money are worth it when compared with the benefits to their health and/or body image. Interventions can be designed to measure a participant's health beliefs concerning these four areas with the idea of providing information and support that will increase the likelihood of change.

The first two focus on beliefs about illnesses associated with poor diet, and would therefore benefit from nutritional and illness information. The latter two focus on weighing up the 'pros and cons' of change. This is often termed 'Decisional Balance', because it describes the process of weighing up, and balancing out, the pros and cons of change. This can be measured using a Likert scale for various items, and techniques employed to enhance the perceived pros and challenge the perceived costs of change, suggesting strategies to overcome them.

Factors such as self-efficacy (the degree of confidence an individual has in their ability to make a change) and locus of control (whether or not they feel their health, or indeed diet is something they or others control), are also deemed to influence whether or not behaviour change takes place and is maintained. Studies such as Henry et al., (2006) have illustrated the use of decisional balance, self efficacy and stages of change in terms of interventions for increasing fruit and vegetable consumption. Essentially they work towards providing systematic assessment information for the purposes of achieving specific and tailored outcomes.

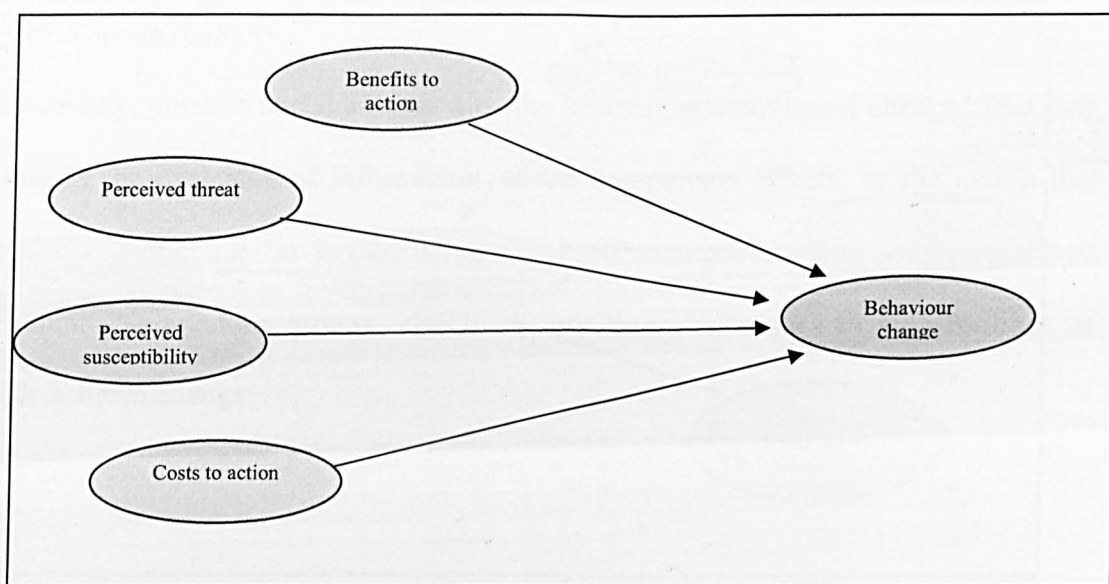


Figure 6. The Health Belief Model (Becker et al., 1977).

10.2 Theory of Reasoned Action & Theory of Planned Behaviour

The Theory of Reasoned Action (TRA) (Fishbein, 1980) describes another model that outlines the key factors that influence behaviour. It also distinguishes between the intention to change, as an antecedent to actual behaviour change. The TRA includes the following factors: 'Attitudes' to the behaviour and behaviour change, and 'Subjective norm' which refers to the influence of others on behaviour. The Theory of Planned Behaviour (TPB) (Ajzen, 2002) (see Figure 7) was introduced as an advancement of the TRA, in that it included a further factor: 'Perceived Behavioural Control', which explains the degree of control and ability to make change (self-efficacy) that a person perceives they have. These models, in particular the TPB, have been very popular in Health Psychology over the last three decades, and have been used to evaluate interventions and understand behaviour change in relation to issues such as smoking, healthy eating and attendance at screening programmes (Ajzen, 2002).

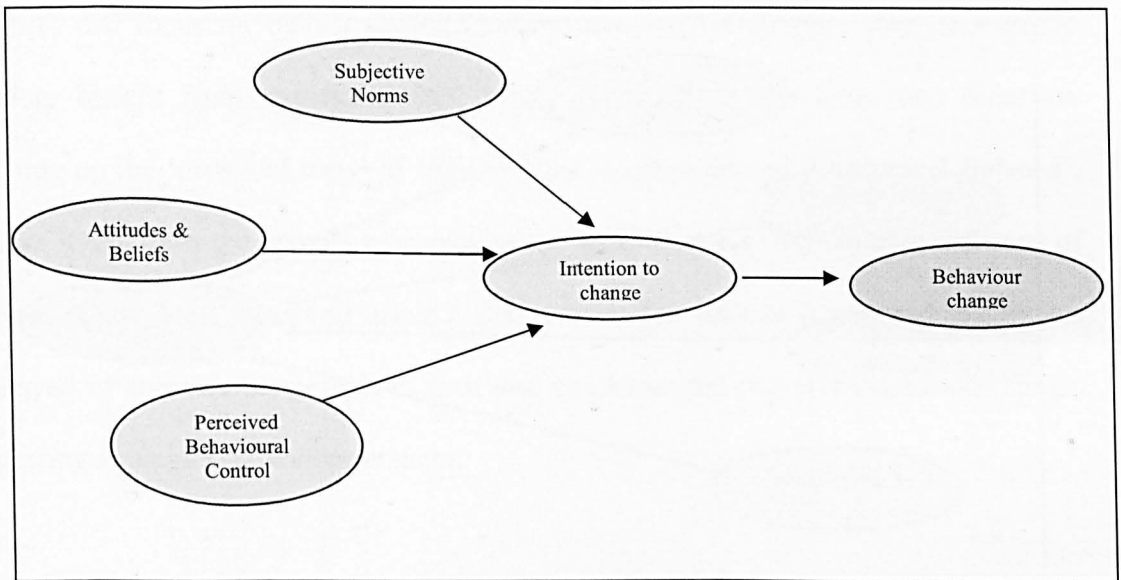


Figure 7. The Theory of Planned Behaviour (Ajzen, 2002)

10.3 Relapse Prevention

Relapse prevention models look at behaviour change in terms of limiting the chances of barriers that limit the ability to maintain such a change. This is very similar to the concept of decisional balance, whereby any behavioural change will continue if the perceived benefits outweigh the perceived costs, and also if events that are likely to elicit relapse are sufficiently managed and avoided.

10.4 Social Learning Theory

Social learning theory was introduced by Bandura in the 1970s and is based around the notion that an individuals' behaviour is strongly influenced by the observations of others in their environment, and the interpretations of these interactions. In terms of dietary behaviour, it could therefore be argued that individuals are more likely to consume an unhealthy diet if those around them do also, or if they have seen others eat an unhealthy diet and remain well. Consequently, processes of social comparison occur, and beliefs and attributions are formed (Bandura, 1971).

10.5 Social Support

Undoubtedly, positive social support aids the process of behavioural change. This may be due to the exchange of information, social comparison effects, or the notion that comradery and being 'in it together' is in itself therapeutic. Slimming groups and 'alcoholic's anonymous groups' effectively use these techniques to help millions of people achieve change.

11. Transtheoretical Model

The 'Transtheoretical Model' (Prochaska and DiClemente, 1986) was developed in order to explain how people change or stop a problem behaviour, and begin a new positive behaviour. For example, how people stop smoking, or start eating healthily. Unlike many other models, it includes a temporal element which postulates that any individual is in one state of change regarding any existing behaviour at any one time, and that they may, or may not, move through these stages, or indeed backwards, towards or away from the goal of change. Therefore it argues that behaviour change is not a one-off event as is suggested in other models, but that there are a number of distinct stages. This aspect of the model was termed the 'Stages of Change', and is illustrated in Figure 8.



Figure 8. The Stages of Change Mode (Prochaska & DiClimente 1986)

Each of the stages involves a different set of emotions, cognitions and behaviours. The stages can be described as follows:

11.1 Pre-contemplation

This stage describes individuals who are not intending to change a given behaviour in the next 6 months. This may be because they have never thought about it, are not interested or are unmotivated or reluctant to change. It may also be because they have tried to change in the past and failed to do so successfully.

11.2 Contemplation

In this stage, individuals intend to change in the next 6 months, or are considering change. They are aware of the pros and cons but have been ambivalent for some time. For example, they may be continually unsure and changing their minds. This has been termed the stage for 'behaviour procrastination'.

11.3 Planning

In this stage, individuals intend to change in the next month and they now have a plan of action regarding how to achieve this, and have given this a reasonable amount of consideration.

11.4 Action

As the label suggests, individuals have now made changes in the last 6 months and at this time intend to continue. Determining what constitutes action is an issue with this stage however, as it is possible that change could mean different things to different people. For example cutting down cigarette smoking by 5 cigarettes a day may be a

large achievement if the individual usually smokes 10 cigarettes, but not to the equivalent degree, if it is usually 40 cigarettes. Equally does it mean eating one portion of fruit a day is sufficient in the case of diet? Hence clarification is needed to be clear about what constitutes change and the threshold for 'Action', which may signify total smoking cessation, or eating 5 portions of fruit and vegetables a day and reducing fat, salt and sugar by a set and significant amount. Those in the Action stage need help to overcome the barriers to maintaining change.

11.5 Maintenance

By the time an individual reaches the maintenance stage, they require help to maintain change as they will have been in the Action stage of change for over 6 months and are now at risk of relapse, and regressing to any the previous stages, even pre-contemplation is still very feasible.

At any one stage, an individual may learn something new, or experience an adverse effect that causes them to regress back to an earlier stage. Generally speaking it has been argued that this is likely as individuals 'test out' the change. However with a revision and some degree of challenging the barriers using cognitive behavioural techniques, the individual should be able to move forward through the stages again.

11.6 Other components

The model also contains a number of variables that influence movement through the stages. These include 'Decisional Balance', the concept of 'Self Efficacy' and 'Processes of Change'. The Transtheoretical model has been successfully used to explain behaviour change in the design of interventions for a number of health-related

behaviours including smoking cessation, exercise, eating a low fat diet, alcohol use, weight control, condom use for HIV protection, drug abuse and stress management (Prochaska, 1994).

The Stages of Change aspect of the model is helpful in terms of assessment because it enables the clinician to comprehend at what stage an individual is in terms of change and therefore use this to assess beliefs and cognitions, understand past behaviour and the specific needs of the individual (Glanz et al., 1994). The 'Process of Change' aspect is important in terms of intervention, as it includes key concepts and ideas to help an individual move through the stages based on assessment of where they lie. It can be used as part of the process of providing motivational interviewing, in terms of understanding an individuals' intentions to make behavioural changes (Menza et al., 2004; Bundy, 2004).

11.6.1 Decisional Balance & Self Efficacy

As previously discussed, 'Decisional balance' (Ajzen, 2002) refers to the beliefs an individual has about the positive and negative consequences of engaging in behavioural change. For example in terms of healthy eating, the perceived benefits may include improved health, better skin and pleasing health professionals; however the costs may include effort, financial costs, a lack of understanding about how to prepare healthy food and a dislike for the taste. Hence an individual may be in a constant state of disequilibrium, weighing up these pros and cons before deciding whether or not to act. If the perceived costs outweigh the benefits, behaviour change is less likely. A target of an intervention should include challenging these beliefs.

‘Self efficacy’ (Ajzen, 2002) refers to the level of ability to act that an individual perceives they have for a given behaviour. It differs from perceived behavioural control or locus of control in that an individual may recognise that they have full control over their health and attribute it solely to their own actions. However they also feel that they do not have the ability to act in such a way that would be beneficial, for whatever reason. Hence measuring these beliefs enables the design of interventions to consider how individuals can be empowered to make changes, reducing barriers and making the process more enabling. Phillips & Gully (1997) suggest that self efficacy and the need for achievement are positively related to goal level and performance in the motivational process.

11.6.2 Processes of Change

The model also describes the concept of ‘Processes of Change’ (Prochaska et al., 1988), which denotes activities that individuals and those supporting them can offer to enable them to progress through the stages. Following analyses of structural equation modelling, Rossi et al. (1994) found that the processes of change model was the best framework within which to describe the results of community-based weight loss programs. The model includes the following key concepts which may be useful in terms of designing interventions that are structured and exclusive to the needs of the individual:

- *Experiential and Cognitive* – Consciousness raising, dramatic relief (emotional arousal), environmental re-evaluation (social reappraisal), social liberation (e.g. advocacy, health promotion), self re-evaluation;

- *Behavioural* - Stimulus control, helping relationships, counter conditioning (substituting), reinforcement management (rewarding), self liberation (committing to change);

11.7 Research using the Stage of Change model

Numerous studies have used the Stages of Change model to assess behaviour change in relation to numerous health-related behaviours in normal populations. In terms of psychosis, schizophrenia and eating habits, a recent study (Archie et al., 2007) has found that 68% of patients were identified as being ready to change their eating habits, and that this was associated with BMI scores. The authors suggested that using this measure enabled clinicians to identify those motivated to make changes, to distinguish between the focus of therapy.

In a review of interventions that utilised the stages of change model (Campbell et al., 1994), comparisons of a tailored- with a non-tailored intervention found that participants in the former retained more information about nutrition and had a significantly reduced intake of fat compared with the non-tailored group. The model can be used to assess an individual in terms for their readiness to change, and hence the intervention offered is dependant on the stage that they are in. Molaison (2002) suggests that health professionals could provide activities from a range of resources depending on the stage, including relapse-prevention, increasing self-efficacy, self-re-evaluation, dramatic relief and stimulus control.

11.8 Measures that use the Stages of Change model

An individual's stage or readiness to change for a particular behaviour has been measured in a number of different ways. One of the original authors of the Transtheoretical model, James Prochaska, has collated a number of short questionnaires that can ascertain this information for a number of behaviours. These include questionnaires for smoking, substance misuse, attending screening, exercise and many others (Cancer Prevention Research Center, 1991). A single generic measure does not exist at present. However there is a great deal of overlap, and existing measures have been adapted for new behaviours. Many of the measures allocate an individual to one of three stages: 'Pre-contemplation', 'Contemplation' and 'Action'. This is due to the fact that factor analysis of samples has often produced three as opposed to five factors, and also interestingly, 'Maintenance' was found to be highly correlated with 'Pre-contemplation' and was therefore removed (Forsberg, Halldin & Wennberg, 2003).

To the author's knowledge, the closest measure relating to dietary habits is the 'Weight Control' stages of change measure (Prochaska, DiClemente & Norcross, 1992). This includes only 4 questions, with a yes or no response. The stage of change of an individual depends on the pattern of yes or no responses (see Appendix 1). The measure works well to ensure which stage an individual is at. However one key issue with this is that it assumes that an individual is only in one stage at a time for a given behaviour, rather than giving individual scores for each. Although this was an original assumption of the SoC model, recent research suggests that it may not be the case and that individuals could score highly on more than one stage to an equal degree (Derisley & Reynolds, 2002). It is possible that an individual is keen to act on some aspects of the behaviour and are ambivalent about others, therefore in more than one stage for

different aspects of the behaviour. They could be about to change their viewpoint from one of action to pre-contemplation, therefore in behavioural terms (Action) they differ from their cognitive standpoint (Pre-contemplation). Consequently rather than viewing the stages as discrete it would perhaps be more helpful to see them as a continuous variable, so you could score highly on more than one stage.

11.8.1 University of Rhode Island Change Assessment (URICA)

In light of this issue, the URICA measure was developed (McConaughy, Prochaska, & Velicer, 1983). This measure includes more questions to provide a separate score for each stage of change. The possible score for each item is out of 5, based on a 5-point Likert scale ('strongly disagree' to 'strongly agree'). Each stage of change has 8 items, therefore a score for each stage is marked out of 40. The average or mean is then taken by dividing the total score by the number of questions ($n=8$). The Results can be interpreted in terms of taking whichever is the highest score to reflect that current stage of change of an individual. However, it is possible that an individual could score the same on more than one stage, perhaps even those that are not temporally next to each other, making the process of assigning a stage difficult. Indeed, Derisley & Reynolds (2002) argue the need to look at the sample mean scores for the scales to ascertain the stage of change. Alternatively other researchers have followed the view that the most advanced stage should be chosen if two scores are the same (Rollnick et al., 1992).

11.8.2 Readiness to Change Score

As assigning a stage is a potentially erroneous process, a 'Readiness to Change' score can be calculated from the URICA, providing one continuous rather than discrete value or series of continuous values. This gives an indication of how likely an individual is to

make changes, bearing in mind the summed score on all the more positive stages (contemplation through to maintenance), and subtracting the more negative stage score from this (pre-contemplation). Therefore if someone appears to be in an action stage based on recent behaviour, but has just decided that they do not wish to continue and have no interest in considering it (pre-contemplation), then their readiness to change would significantly drop based on their current pre-contemplation scores. The measure, and process of calculating the Readiness to Change score are illustrated in Appendix 2 and 3.

The fact that the URICA has many questions can be seen as a negative because it is time consuming to complete, and also because people may contradict themselves in how they answer. However this highlights the fact that language may influence how an individual responds, perhaps indicating the fact that it is difficult to elicit exact information about someone's current stage of change. Equally individuals may answer in different ways depending on their mood, the context, and social desirability effects. However the URICA is beneficial in terms of giving an overall score that can be easily compared over time and is far more sensitive to change than a mere move from one stage to another. Cut-off points to indicate which stage of change an individual is in based on their readiness to change score have been used in some research but are not yet clearly defined (Prochaska & DiClemente, 1983).

11.8.3 Other measures

Other measures have intended to capture the nature of the Transtheoretical model and stages of change. For example 'The Stages of Change Readiness and Treatment Eagerness Scale' (SOCRATES) (Miller & Tonigan, 1996), is a 32-item measure used to

assess behaviour change in alcohol and drug use. Unlike the familiar 3 or 5 stages of URICA and the traditional stages of change measures, it yields three scale scores derived from factor analysis: 'Recognition', 'Ambivalence' and 'Taking Steps'. This yields a total score on each scale for each individual. Unlike the other measures, the three stages are discrete and not temporal, therefore you do not move from one to the next, but rather the score on each indicates whether the degree of recognition, ambivalence and taking steps are high or low for an individual. To indicate whether total scale scores are high or low is achievable by comparing the score with 'Decile scores' which are based on research with individuals presenting for alcohol treatment. A shorter version of 19 items has also been used. The measure can compare changes in total scores over time, but the lack of a temporal element, and the fact it was developed for alcohol and drug populations, make it less commonly used than the URICA.

12. Motivational Interviewing and the Transtheoretical Model

12.1 Stages of change and MI

The stage of change model lends itself well to forming the assessment stage in the process of a motivational interviewing intervention. This is because, when using the longer form, it provides information regarding the level of resistance and ambivalence that an individual has, and highlights beliefs that may be acting as barriers, that can be targeted and challenged to resolve discrepancy and improve feelings of self efficacy. For example, those in a pre-contemplation change may be termed 'resistant' according to the MI model. Miller & Rollnick (2002) argue that there are four types of person presenting in the 'resistance' or pre-contemplator stage. These include 'reluctance', 'rebellion', 'resignation' and 'rationalisation'.

(i) Reluctant pre-contemplators

Reluctant pre-contemplators do not want to consider change due to a lack of knowledge or apathy. They are not very conscious about the issue and may be uncomfortable about making change and exerting effort. They are also yet to think it, hence those in this stage would benefit from careful listening and the provision of feedback to reduce tension.

(ii) Rebellious pre-contemplators

Rebellious pre-contemplators may have sufficient knowledge regarding the issue at hand. However they do not like being told what to do and regardless of their thoughts and beliefs concerning the issue, they would prefer to rebel against it out of protest. They are likely to argue with the therapist and provide reasons as to why they do not wish to change. The goal of MI is to allow them the space to discuss this anger and associated feelings and direct this in constructive manner. A list of options can then be provided to work out the best strategy, providing choice and control for the individual.

(iii) Resigned pre-contemplators

Resigned pre-contemplators no longer feel motivated and may have tried unsuccessfully in the past to make a change. They may feel they have no control over the situation and therefore are unable to sustain change. MI can provide greater feelings of control, suggest strategies and improve confidence. Discussing the issues regarding relapse is also important and enables individuals to recognise that this is normal and does not mean failure or relapse in the future.

(iv) Rationalising pre-contemplator

Finally the rationalising pre-contemplator has a justification to oppose change for every aspect. They may argue and further convince themselves of the reasons against it. Hence a decisional balance measure to ascertain their perceived benefits and costs of change is recommended to establish beliefs that could be further discussed. The therapist must ensure that individuals recognise that they're not going to argue with them, and that having discussed the pros of not making a change, counter arguments exist, ensuring that individuals draw their own conclusions in their own time.

In the contemplation stage, MI can be used to discuss the problem, understand previous experiences and problems, and discuss issues that may be acting as barriers, including how these can be overcome. It will likely include an assessment of decisional balance to help individuals move towards the stage of action, and improve self-efficacy by discussing the perceived negative aspects and reinforcing the positive equally. Contemplators are considering change but are not necessarily ready to make a commitment, so again resistance needs to be met with empathy rather than criticism. According to Miller & Rollnick, contemplation may be associated with feelings of depression as individuals struggle between what they want to do, what they feel they should do, and what they feel able to do.

In the stages of Action and Maintenance, MI can be used to help individuals make a plan for behavioural change, and to support the maintenance of this plan, consider relapse prevention, provide affirmations as a result of success and to continually reassess concerns and difficulties. Relapse can occur at anytime, and strategies, both

cognitive and behavioural, are important to ensure that further attempts can be made if appropriate.

12.2 Criticisms of the model and measures

Although the Transtheoretical Model has been in widespread use for the last 30 years, there has been much discussion regarding the reliability and validity of the concept and how it is measured. Firstly there are issues in terms of the temporal nature of the model. The existence of stages implies some degree of order and sequence. However in reality many studies have found that individuals do not neatly move through the stages from 'Pre-contemplation' to 'Action/Maintenance' as predicted. In fact Prochaska himself found such an issue when comparing change over time every 6 months for two years, with 544 self changers from the general public (Prochaska et al., 1991). He found that only 16% showed a progression through the stages in order, with no reversal. Equally no individuals progressed through 3 or more stages, and in fact 12% moved backwards (e.g. C-C-PC-PC), with 36% remaining in the same stage (e.g. PC-PC-PC-PC). Therefore there was some question about whether or not the model accurately illustrated how behavioural change occurs. In relation to this issue, Sutton (1996) found that non adjacent stages were often highly correlated with each other, occasionally to the same degree as those adjacent to one another, which contradicts the model. As a result he suggested the need to describe 'states' rather than 'stages'. However work in clinical groups, under systematic intervention settings, appears to be more efficacious (DiClemente et al., 1991).

12.3 Conclusions

In conclusion, the Transtheoretical Model is arguably one of the more useful models in practice, because it considers specific needs and enables assessment as well as providing advice for intervention that is tailored to the individual. The temporal element can also be introduced to participants as a useful graphical representation of their goals, which in itself may prove therapeutic.

13. Practicalities and specific needs of this group

13.1 Time constraints & resources

This clinical group require an intervention that can be offered in a brief format for several reasons. Firstly because in economic terms it is unlikely that the NHS and healthcare in general would be able to employ professionals especially to run the intervention, due to cost implications, and therefore it is more likely that it would be offered by those already working in a service. Hence due to caseloads and time constraints it would be beneficial if the intervention was brief in nature. Equally this clinical group are likely to struggle to concentrate for long periods. However will need sufficient sustained support and follow-up, therefore short yet repeated sessions are recommended. Similarly, it is unlikely that either the service or the service user will be able to use an intervention that has a financial cost, for example providing set meals. Therefore the intervention should require limited resources that denote an expense.

13.2 Appropriate communication

Interventions need to ensure that whilst they encourage behaviour change, they do not do so in a way that leads to increased feelings of anxiety for individuals, for example if

they feel pressurised to make changes or fear letting health professionals or loved ones down. Equally they may experience an element of self blame due to the stigma of being overweight or the feeling that they are being judged for having an unhealthy diet. This is emphasised in interventions for obesity in the general population which illustrate the need to target the stigma and self-blame of being overweight (Hitchcock Noel & Pugh, 2002). This may be especially difficult to deal with in this clinical group who are likely to already be experiencing the stigma of mental illness.

Introducing MI and CBT interventions in Early Intervention requires consideration of specific needs. Using MI with younger people, those with potential cognitive deficits and those who may have problems with engaging and developing a therapeutic relationship should be considered. Miller & Rollnick argue that individuals who are less verbal as a result of the illness, exhibit a lack of confidence, fear or distrust; or side-effects of the illness and medication such as sleep deprivation or attention difficulties, can still benefit from MI. In this case the therapist may need to adapt the line of therapy to include closed questions at first, if this is easier for the client to manage. Equally they may need to present information in alternative formats, consider smaller sessions, and the appropriate stage for treatment to commence. The primary concern is likely to be helping young people to reach recovery from their psychosis before attention is drawn towards dietary change. However it can also be argued that early dietary intervention may help to prevent the weight gain associated with the commencement of anti-psychotic medication, and therefore should be started as soon as possible when a client enters the service. Equally it might be argued that during an acute phase, or indeed at any stage of illness, an individual may find focusing their attention on dietary change too stressful or guilt-inducing. Hence it seems vital to not only tailor the content,

structure and length of sessions for this clinical group, but also the timing of commencement, to meet their specific needs.

14. Empowerment, Choice and Control

14.1 Health Locus of Control

The concept of 'Locus of Control' (LoC) describes the notion that individuals perceive certain behaviours as within their control, whereas others are not. In its simplest terms it refers to an 'Internal' versus 'External' locus of control, wherein an individual may feel they have control over an event (internal) as opposed to little or no control (external). The latter is made up of various possible sources of external control, such as the perception that an event is due to fate ('Chance') or 'Powerful Others'. According to Rotter (1975) whether or not an individual has an 'internal' or 'external' LoC is dependent on general beliefs based on past experiences and reinforcements, such as successful past attempts at action towards a particular goal. According to Lau (1982) the extent to which an individual practices health behaviours in childhood, predicts later beliefs in the controllability of health, both in terms of self care, and also care from doctors.

Health Locus of control refers to the control an individual perceives they have specifically over their health (Wallston, Wallston & Devellis, 1978). It may refer to their health in its entirety or certain illnesses and behaviours within them specifically. As logic would suggest, research appears to show that individuals with an internal health locus of control will be more proactive in their healthcare and will believe that their own actions can influence their health. This viewpoint can have both good and bad

consequences. For example, an individual may choose to engage in more healthy behaviours if they believe their actions have an effect on their health, and they may be more proactive in their healthcare, for example by attending screening clinics or reading about particular illnesses and their prevention, such as STD's. Conversely, individuals may also experience detrimental effects, for example if they do not feel others can help them, they may choose not to go to the doctor when it is important, or may exhibit anxiety over their health if they feel it is up to them to recognise and diagnose illnesses, and also to participate in behaviours to optimise health. Therefore an extreme 'monitoring' of one's health can be anxiety provoking, posing negative effects on an individuals' well being.

An external health locus of control can produce the same effects in reverse, such that the person may seek care and allow decisions to be made by professionals, but fail to take control for their health, ignoring the signs of ill-health or engaging in unhealthy behaviours. Therefore the opposite approach of 'blunting' can occur, in that individuals consciously or unconsciously choose to not pay time and attention to their health, or particular aspects of it. On the positive side, this protects them from experiencing the anxiety that individuals with an internal health locus of control may endure. Nonetheless they may also experience a sense of helplessness when ill, or over-reliance on healthcare professionals and family, in the notion that there is little they can do to improve the situation.

In relation to healthy eating it is possible that an individual with an external health locus of control believes that there is little they can do for their health, and therefore controlling their diet will have little effect and if they were to develop heart disease or

diabetes, doctors could manage this and would be the only people able to prevent or cure it. They may even perceive that obesity is something that health professionals should deal with and that there is therefore no responsibility on themselves. They may also have a strong belief, spiritual or otherwise, that whatever happens to them in terms of their health is the result of fate or some other intervention, for which they have no control (Chance LoC). Hence beliefs about the causes, control and consequences of illness are very important cognitions to take into account when devising interventions. In terms of eating, if people do not feel they have any control over their health and that diet has any influence, they may be less likely to make changes. An internal health locus of control has been linked to the ability to change a number of health-related behaviours, including the ability to lose weight (Wallston et al., 1976). Encouraging perceived behavioural control may not only help to facilitate behaviour change, but also result in enhanced feelings of empowerment as individuals play a more proactive role in their healthcare.

15. Conclusions

It appears to be clear that a tailored behavioural multidisciplinary approach is best suited to a healthy eating and weight management intervention. This is in line with research based on the general population suggesting that weight loss is maintained more in those using behavioural strategies to control their weight in comparison to other methods (McGuire et al., 1999). The focus should be on making lifelong changes, rather than quick-fix short-term solutions. It should also aim to empower the individual, inform, and offer choice. This is especially pertinent as many people with psychosis or schizophrenia are now seen in community rather than hospital settings wherein diet

cannot be controlled by the health professionals to the same degree, and is instead the sole responsibility of the service user and their carers.

Sharpe & Hills (2003) emphasise the need to promote realistic long-term goals, alongside strategies to deal with emotional and environmental factors that may trigger food choice and overeating. Stress management is important as anxiety can often act as a trigger to eating behaviours (Birt, 2003; Logue, 1991). Equally social support is important as diet is often affected by the habits of those around us in terms of social comparisons, habit and seeking acceptance. Not only can interventions of this type help individuals to recognise patterns in their thinking and behaviour and reduce the cues that lead to unhealthy eating, but they can also facilitate changes that can empower, as well as have a positive effect on mental and physical health.

15.1 Designing an intervention

Centorrino et al. (2006) adapted a weight reduction program used to treat obesity in the general population (TRIAD) and adapted it for suitable use with people with psychosis, as he found they required more dietary counselling than the general population. Hence interventions that assess specific needs and provide psycho-education, an interactive element, some form of structured CBT or motivational interviewing and those that are presented in a non-judgemental way with empathy and support appear effective. A recent publication (Khazaal et al., 2007) found that CBT was effective in terms of dealing with weight-related cognitions for patients taking anti-psychotics, which in turn led to weight gain. This was reported to be the first study applying CBT specifically in this context. It has also been argued that interventions should consider psychological

issues such as Quality of Life (QoL) and self esteem in relation to weight management and healthy lifestyles (Lloyd et al., 2003).

In particular, motivational interviewing is well suited to dietary change as it aims to work collaboratively with the client in a way that minimises blame and resentment, helping to overcome barriers to change, set goals and support behavioural change at the pace of individuals (Miller & Rollnick, 2002). Not only is important to illustrate to this clinical group *what* they should aim to eat, but also how they should prepare food, how they can avoid temptation, set goals, and how much they should eat as this in turn can impact on the efficacy of what they are consuming.

Aims

1.1 Aims of the study: To develop, pilot and evaluate a psychological intervention to help young people with psychosis improve their diet and/or manage their weight.

The 'Psycho-Nutritional Intervention' (PNI) will consider the following:

- Improving nutrition to enhance mental health
- Improving nutrition to enhance physical health
- Developing knowledge regarding nutrition and health
- Healthy eating to combat weight gain
- The perceived benefits (Pros) and costs (Cons) of change
- The health-related control an individual perceives they have
- Psychological beliefs about illness, self esteem & body image, control and empowerment
- Psychological barriers to maintaining behaviour change

1.2 Research Questions:

1. In comparison with a Control, and Treatment as Usual (TAU) group, does the addition of a psychological intervention for young people with psychosis:

- Increase the readiness to improve nutrition and eating habits?
- Increase Internal Locus of Control?
- Decrease negative beliefs and increase positive beliefs in relation to healthy eating?
- Increase self esteem and functioning related to weight?

- Do these effects occur straight away or over time; and are they maintained?
- Is there a relationship between Locus of Control scores and Readiness to Change scores/ Stage of Change?
- Do service users in the TAU and PNI groups, who receive a nutritional intervention, have a greater knowledge of nutrition than the control group?
- Is there a relationship between negative and positive beliefs associated with healthy eating, and Readiness to Change scores/Stage of Change?

1.3 What does this study add to the current evidence base?

Several randomised controlled trials have been carried out to assess the efficacy of psychological interventions for *weight management* in people with schizophrenia and psychosis (Earle et al., *in press*). Nonetheless, to the author's knowledge, this study is unique in terms of the following factors:

- It will assess First Episode of Psychosis patients only, who have specific needs.
- Due to the nature of Early Intervention Teams for Young People with Psychosis, the age range will be from 18 to 35 years only. All previous research has included a far larger age range.
- It will use a part randomised controlled trial design.
- It will compare the psychological intervention group with a control group, and *also* a 'Treatment as usual' group, receiving standard nutritional advice from a nutritionist. Hence this assesses the extent to which it is necessary to offer a psychological intervention in addition.
- It provides an intervention to enhance healthy eating as well as encourage weight management, therefore focusing on enhancing mental health with

improved nutrition, rather than dietary restriction. As a result, unlike previous research, the intervention will be open to all service users, regardless of their weight or BMI.

- It will assess variables such as nutritional knowledge, intention to change eating behaviours, perceived health locus of control, self efficacy and beliefs about healthy eating, body image and weight. Therefore providing a more in-depth insight regarding healthy eating cognitions in this group.

Chapter 2: Method

1. Purpose

To evaluate the efficacy and effectiveness of a tailored Psycho-Nutritional Intervention (PNI) for young people with a first episode of psychosis. The intervention will target both improved nutrition for physical and mental health and weight loss incorporating psycho-education and Motivational Interviewing techniques to overcome barriers to achieving this and maintain behavioural change.

2. Design

A longitudinal, part Randomised Controlled Trial (RCT) intervention study comprising three groups: Control group, Standard Nutritional Therapy only (Treatment as usual or TAU), and Nutritional Therapy + Psychological Intervention (Psycho-Nutritional Intervention or PNI). Differences in pre- and post outcome measures will be compared between these groups, and also within the same group over three time points: Time 1 (Baseline, pre intervention), Time 2 (one month following the baseline and after the intervention) and Time 3 (three months following the Time 2 collection).

A fully randomised controlled trial is not possible for two reasons. Firstly only one Early Intervention Team (Rotherham) has a standard nutritional service and therefore numbers would be too small if randomisation took place within just one team. Hence if Manchester EI team is used solely as a control, numbers are increased. Secondly it overcomes the ethical implications of not offering a nutritional service earlier to those

who would otherwise be offered it in Rotherham if the research was not taking place. The two teams have very similar models of service provision as they are managed by the same trust and service users are unlikely to differ in terms of demographics, physical- and mental health. However statistical analyses will be carried out to check this. Randomisation did occur however when assigning participants to either the PNI or TAU groups, and was conducted using a computer-based randomisation programme.

3. Sample

In Rotherham, the caseload is approximately 123 service users. Manchester EI team is a new service, and therefore at the time of conducting the study numbers were only reaching approximately 60. A power analysis established the need to have approximately 30 service users in each group to reliably establish an effect when comparing scores between the groups. Simply comparing two groups: those receiving the intervention (PNI) and those in the control group would be unreliable because those in the PNI group from Rotherham Early Intervention team may show changes that are due to receiving standard nutritional care rather than the intervention itself. Therefore it was deemed necessary to compare differences across 3 groups: control, Treatment as Usual (TAU) and the PNI group, the latter receiving the same care as the TAU group with the intervention as an additional feature. Therefore if no differences were found between the TAU and PNI group, it could be argued that the PNI group had no benefit over and above the TAU group, and that the nutritional service offered in Rotherham is sufficient to elicit optimum change, if indeed it shows improvement compared to the control group.

As a result, the sample included 3 groups, each aiming to recruit at least 30 service users. Essentially this meant that almost half of the service users in Rotherham and Manchester needed to take part. Due to the nature of the clinical group many service users were not well enough to participate because they were in an active stage of their illness (the acute phase), or indeed they did not wish to. Therefore concerns about recruiting were significant. Equally, as Manchester is a new team, it is likely that more service users would be in an early phase of their illness, and furthermore, staff themselves may find the process of recruiting problematic as they themselves get to grips with a new service and post.

Nonetheless, a target total of 90 service users in the sample was deemed possible, based on sample sizes in the previous research (Alvarez-Jimenez et al., 2008), and advice from a statistician. Studies that have achieved good sample sizes suggest that motivation does exist to lose weight and eat more healthily in people with psychosis. However, as these service users often lead stressful lives, they may experience some reduction in cognitive functioning, and medication frequently causes a lack of motivation (Koya & Nakayama, 2005) these may act as obstacles for reaching this target.

3.1 Exclusion Criteria

All service users in Manchester and Rotherham Early Intervention Teams for Young People with Psychosis that met the inclusion criteria were invited to take part. Service users were excluded from the study if they meet the following criteria:

- They were too unwell (lacking capacity) to take part or became unwell after they had provided consent.

- Their speech and comprehension of the English language was limited.
- They had significant learning disabilities.

The three groups specifically comprised:

- (i) A control group from Manchester Early Intervention Team who do not receive any form of nutritional therapy at this present time as standard.
- (ii) Treatment as Usual (TAU) nutritional therapy group- from Rotherham Early Intervention Team, receiving standard care from the nutritionist based on the Integrated Care Pathway for Nutrition in mental health.
- (iii) A Psycho-Nutritional Intervention (PNI) group who receive the standard nutritional service above coupled with a tailored psychological intervention component using 'Motivational Interviewing' techniques (Miller & Rollnick, 2002).

4. Procedure

4.1 Ethics

Ethical approval was obtained from South Yorkshire Ethics Committee. A provisional approval was first given, providing the study was evaluated by a statistician to provide information regarding adequate numbers. It was also necessary to provide a peer review. This were both obtained and sent to the board who responded with a favourable opinion for the study. Initially it was intended that Doncaster EI team would act as a control group. However due to a change in circumstances this was no longer possible.

Rotherham, Doncaster and South Humber NHS Mental Health Foundation Trust (RDaSH) also manage early intervention teams in Manchester and Lincoln, therefore a 'Substantial Amendment' was submitted to the ethics board to include Manchester EI team in the study as a control group, as they also did not receive nutritional input as part of their care.

The researcher was careful to ensure the ethical feasibility of having a control and 'treatment as usual group'. It would not be geographically possible to offer the intervention in Manchester. For service users in Rotherham who wanted to receive the intervention, it was agreed that this would be offered at the end of data collection so that they received an equal level of care. At the time of writing, discussions were taking place to commence a nutritional service within Manchester Early Intervention team, but this would begin after the end of data collection for this study.

This study followed standard ethical procedures in terms of confidentiality, and a consent form was completed by service users at the beginning to ensure they understood their right to withdraw from the research at any time without this affecting their care, that they had read the participant information sheet, had the opportunity to ask questions and consented to their GP being informed about their participation. Data were stored in a password protected computer and hard copies kept in a locked filing cabinet. Pseudonyms were used where necessary.

4.2 Information sheets

The information sheets were designed to provide information about what the research was aiming to achieve, what was involved, why they were being invited to take part,

what it would involve, their right to withdraw, and what to do if they wished to make a complaint (see Appendix 4). This information is based on standard requirements for information sheets used in conducting research, and meet the guidelines of the Central Office for Research Ethics Committees (COREC). Two information sheets were produced. Each were very similar but worded slightly differently for those being offered to take part in the control group (Manchester EI), and those in the PNI and TAU groups (Rotherham EI team). Both included information about the questionnaires and when they needed to be completed, should the service user choose to participate. Naturally the latter information sheet also included information about what would happen in terms of being randomly selected to one group, and what would occur if they were offered the intervention, including how long it would take, what feedback they would receive and added support should they require it.

4.3 Outcome measures: Questionnaires

The questionnaires¹ were chosen and designed to provide information about nutritional knowledge, views about the benefits and costs of healthy eating (Decisional Balance), readiness and intentions to eat healthily (Stage of Change), the amount of control an individual perceived they had for their health (Health Locus of Control, LoC), and finally a measure of body and weight related self esteem and social functioning (BWISE).

¹ For the complete measures please see Appendix 5

Specifically, the outcome measures consisted of the following:

(i) **'Readiness to Change Eating Habits Scale'**. This is a 20- Item measure used to ascertain which 'Stage of Change' a person is in, in terms of healthy eating, based on the 'Transtheoretical Model' (Prochaska & DiClemente, 1982) and adapted from the 'University of Rhode Island Change Assessment (URICA) Weight Control Long Form' (McConaughy, Prochaska, & Velicer, 1983). Each question represents one of the 5 stages of change, with 4 questions for each stage. Readiness scores are calculated by taking the mean score for each stage. Whichever is highest represents the stage of change that the individual is in. An overall score: Readiness to Change can also be calculated, including a change in Readiness to Change score over time. The scoring of the measure is later discussed in greater detail.

(ii) **'Body weight, Image and Self Esteem Questionnaire' (BWISE)** (Awad & Voruganti, 2004). This is a standardised measure used specifically with individuals with schizophrenia to assess beliefs related to weight and image, and the impact of this on the individual. It consists of 12 items, with a 3-point Likert scale with responses of 'Never', 'Sometimes' and 'All of the time'. Total scores are between 12 and 36, with higher scores indicating poorer adjustment. It has high internal consistency (Cronbach's alpha 0.79), and reasonable split half and test-retest reliability (Spearman Brown Coefficient of 0.76; Coefficient of 0.81, $p < 0.001$ respectively). The measure has been replicated in a European sample (De Hert et al., 2006) and was found to differentiate those with recent weight gain, as having lower self-esteem and poorer psychosocial adaptation.

(iii) '**Beliefs about control and my health**'. Officially known as the 'Multidimensional Health Locus of Control Scale' (MHLoC)(Wallston, Stein & Smith, 1994), this is a standardised 18-item measure that has been used extensively in health related research to assess the degree of control an individual perceives they have over their health. Control is split up into three types: '**Internal**' – the degree of belief that it is one's own actions that are responsible, '**Chance**' – the belief that it is the result of fate and destiny, and '**Powerful Others**' – the belief that other people in positions of authority, such as doctors and teachers, are responsible. A total score for each type of control is produced, based on the totals of 6 items for each.

(iv) '**Nutritional Knowledge Questionnaire**'. This is a 20-Item measure developed by the researcher and nutritionist to measure nutritional knowledge. Although measures currently exist, none were deemed appropriate for this specific clinical group, although aspects of current measures were simplified. For example, Anderson et al., (2002) highlighted the reliability and validity of including three domains: *Knowledge of Applied Nutrition*, *Knowledge of Food Preparation* and *Perceived Confidence in Cooking Skills*. The latter is looked at more closely in the Decisional Balance measure in this study. The measure was piloted with 6 service users to consider the appropriateness of the language used, to reduce bias and ambiguity and increase face and content validity.

4.4 Tailoring based on baseline information

As briefly discussed above, participants in all three groups completed baseline assessments to ascertain their 'Stage of change' (Prochaska & DiClemente, 1982), along with the other pieces of information. This indicates where they stand in terms of making

a dietary behaviour change. Depending on which of the stages the participant is in, dictated the form and content of the intervention they received, therefore enabling a tailored programme for the their needs.

4.5 Other outcomes

Originally it was intended that not only would cognitive indicators of change be measured, but also clinical indicators such as Weight, BMI and current nutritional intake using 24-hour recalls. However one month into the study the Manchester team explained that they could not complete these measures due to time constraints and a lack of staff, an issue that was mirrored in the Rotherham team. As there would be no comparison control group data, the collection of this clinical data would not be valid, therefore the decision was made to end this collection. Furthermore, each team had only one set of scales, and this had to be used in line with risk assessment procedures by a nurse. Hence collecting this data was not possible.

4.6 Data collection Time points

The measures were collected at baseline, following the intervention at 1 month, and at a further 3 month follow-up.

4.7 Pilot

The Information sheet and questionnaires were piloted with 6 ex-service users attending a carers group from the Rotherham Early Intervention Team, to check face and content validity, ensuring they were easy to comprehend. This process resulted in the information sheet being slightly simplified and re-worded and in the non standardised

questionnaires, some items were removed or reworded as they appeared to be repetitive or ambiguous.

The intervention itself was also discussed and adapted amongst multidisciplinary members of the team, and piloted and adapted with 5 service users that were about to leave the early intervention team and therefore would not be able to take part in the study. This again was to ensure that the intervention was suitable, easy to understand and valid.

4.8 Power analysis

It was originally intended that weight would be a principal outcome measure in the study. However the practical impossibility of doing this meant that this was not possible. However the sample size was calculated based on obtaining sufficient power to recognise an effect size if it existed, based on clinically significant weight loss. This established that 30 participants would be sufficient. As the other chosen outcomes were all questionnaires, this number was also deemed sufficient by a statistician at The University of Sheffield for this purpose also.

The calculation below is based on the means and standard deviations of a similar previous study (Littrell et al., 2003), the effect size (Cohen’s d) was calculated as follows:

	Mean	Std. Dev
Educational Intervention Group weight (lbs)	178.79	33.02
Standard Group weight (lbs)	190.2	45.57

Using the following calculation:

$$d = \frac{mean_1 - mean_2}{\sqrt{(SD_1^2 + SD_2^2)/2}}$$

$$d = 0.287$$

When entered into an internet-based power calculator:
(http://davidmlane.com/hyperstat/effect_size.html) the sample size required was 95.

However, having consulted a nutritionist it was felt that a weight difference between the TAU and PNI group of 8% would be a more clinically sufficient effect than the above calculation that is based on a 5.79% reduction. We can calculate Cohen’s d based on an 8% weight difference which would give a mean of approximately 174.984.

This works out as d = 0.38238, with an effect size of 0.18778. This is not a large effect size. However any difference in weight between the two groups was deemed by the nutritionist to be clinically sufficient. Therefore with the above effect size, a sample size

of 54 is adequate. As this study was aiming to collect data for around 25 to 30 service users in each group, this sample size is ideal, and provides what is still deemed to be a clinically sufficient and realistic effect size, with power at a 0.8 alpha level.

5. The Psycho-Nutritional Intervention (PNI)

As previously discussed, following an in-depth systematic review of over 3,000 journal articles, successful psychological interventions for improving diet and nutrition in individuals with schizophrenia were identified. A Delphi panel (Linstone & Turoff, 1975) of professionals that included a Psychiatrist, Nutritionist, Community Psychiatric Nurse and Trainee Psychologist agreed on the design of a final intervention to be piloted in the team. The intervention included tailored psycho-education in the form of information booklets, activity sheets and visual aids. It also included the use of motivational interviewing in the form of support, problem solving, and strategies to encourage behaviour maintenance and overcome barriers.

Depending on the stage of change that the participant was currently in, affected the focus of the intervention. For example, if someone had no intention to change the focus was on providing factual information about why they might want to, as simply providing strategies to help them to put it into practice would prove pointless if they had no intention to act on them. Equally if someone has decided that they need to change, help was best offered in terms of practical advice to enable them to achieve this goal, coupled with strategies to help overcome barriers. The format of the intervention is outlined in the Intervention Competency Portfolio.

If necessary, basic CBT was used in terms of ascertaining the more emotional aspects of why behaviour change is or isn't desired. For example in relation to emotional eating or eating related to stress and illness symptoms. It was also applied in conjunction with beliefs and emotions regarding body image, conforming to peer pressure and the stigma attached to being over weight.

5.1 Important Considerations

There were a number of considerations that were taken into account when designing the intervention. For example, it is common for people with psychosis to have poorer cognitive functioning than the general population (Fearon & Murray, 2002). Therefore attention, memory, language and learning may be affected. As a result it was important to ensure that all information given met an appropriate reading age to compensate for cognitive deficits common in this clinical sample. Multiple methods of presenting the information, including visual aids were used, to overcome issues in relation to attention and memory as it was felt that participants may be more likely to remember information presented in images and those including an interactive component, as opposed to long pieces of text (Higbee, 2001). It was also judged important to ensure that any intervention did not place feelings of blame or guilt on the service-user regarding their choice of foods, a lack of successful change or indeed a decision that they don't want to make a change in the first place.

6. The process of conducting the study

All service users from both teams were invited to take part in the study by their care coordinator, as many service users had not met the researcher before this was deemed

more appropriate. Service users were given an invitation letter, information sheet and consent form to sign, followed by sufficient time to read through this and ask questions if they wished to either the care co-ordinator or the researcher, via a telephone number on the information sheet. Following discussions with care co-ordinators, all service users of Manchester Early Intervention team that met the inclusion criteria were invited to take part in the study (N=53). The names of service users who had met the inclusion criteria (N=97) and agreed to take part in the study and to the process of randomisation in Rotherham Early Intervention team (N=72), were each given a number in a database and then randomly assigned to either the TAU or PNI group. This was achieved using a computerised random number generator accessed from the internet (<http://www.randomizer.org/form.htm>), and resulted in two groups.

Those who agreed to take part were given a pack of the 5 questionnaires to complete at Time 1 (T1), 1 month later at Time 2 (T2), and 3 months after that at Time 3 (T3).

For those in the control group, this was the only involvement they had in the study and between time points they simply continued to receive their standard care within the Manchester EI team as usual. For those in the TAU group, they were seen as they would usually be, by a nutritionist to establish their eating behaviours and to offer recommendations for changes to their diet. Finally, those in the PNI group received the same nutritional care as the TAU group, with the additional psychological intervention between T1 and T2.

The Psycho-Nutritional Intervention (PNI) took place in the service user's own home and was conducted by the researcher. On each occasion their care co-ordinator was also present to reduce anxiety. The researcher began with a brief introduction to explain who

they were, and what the purpose of the visit would be. Service users were told they would be asked some simple questions and then together with the researcher they would devise an action plan with strategies for change. The session was tailored based on the information they had already provided in the 5 baseline questionnaires. They were then told that the researcher would go away and formulate these ideas to provide feedback with supportive documentation in a pack. They would receive this within one week from the visit via their care co-ordinator or support worker. The intervention itself lasted approximately 1 hour.

Service users were asked what they wished to achieve, why they found it difficult to change, if at all, what they could do to overcome this and what barriers they felt they would face. The process was therefore collaborative in nature. Small goals were set and a feedback card given to them straight away. Service users were telephoned approximately two weeks later to find out how they were getting on, and whether they required any further advice or assistance.

6.1 Data collection response rate

The process of collecting the data was a very challenging one. Originally it was intended that following random allocation, the care co-ordinators of each service user who had agreed to take part, would collect consent and give the pack of questionnaires to the service user. This meant that each care co-ordinator was providing questionnaires to approximately 3 service users each. They were given plenty of time to do this (the staggered process of data collection lasted 9 months in total). However were also informed that the time frame needed to be adhered to and therefore it was important that the questionnaires were returned as soon as possible. Unfortunately this was a very slow

process. Participants reported forgetting them, losing them or simply that they hadn't yet finished them despite a significant lapse in time. On suggestion that the care co-ordinator sat with the service user to complete the measure, this seemed to improve the feedback somewhat. However overall it required a great deal of work on the part of the researcher to follow-up and provide numerous reminders.

Eventually it was clear that asking care co-ordinators to provide follow-up questionnaires to service users would be ineffective, as the response rate after over 2 months was only approximately 10% of what was required. Therefore a different method was imperative. Eventually each service user was posted the Time 2 questionnaire, complete with a stamped addressed envelope to return it in. Unfortunately this method also failed as it resulted in only two replies out of first wave of 30 posted.

At this point in the study there were concerns about the degree to which the process of data collection had already exceeded the anticipated time limit, including the extra months added on for contingency. Having tried two methods of data collection it seemed likely that unless the process, or outcomes required were revised, little further data would be obtained, and numbers would be very low. As a result the decision was made to reduce the number of questions asked, and rather than posting the measures, or relying on staff involvement, the service users would be telephoned to answer the questions. It was agreed that this would only be done with service users who had provided consent already, and as they had not consented to answering questions on the phone, it would be made clear that their involvement was entirely voluntary. Of the remaining 55 participants in the groups requiring the collection of Time 2 data, and a

potential 30 in the PNI and 21 in the TAU group requiring the collection of Time 3 data, all were collected via this method, suggesting that it was preferable over the previous failed attempts at data collection.

6.2 Revision to the items

Feedback from care co-ordinators suggested that the measures were taking a long time to complete and that despite an explanation in the information sheet, participants did not understand the need to complete the same questionnaire on three time points. Indeed, many responded that they had already completed the questionnaire and therefore a mistake had been made. As a result it would have been wise to provide each time point questionnaire in a different colour paper, and clearly label them as Questionnaire 1, 2 or 3. It is possible that further explanation, beyond the information sheet, was required to make it clear why the same questions were repeated, and this may have needed to have been conveyed verbally as it was evidently not enough to simply include in the information sheet alone.

In reducing the number of items asked, it was imperative that a negative effect on the reliability and validity of the data collected was minimised. The Stages of Change model has been used in research with only one item for each stage of change in the form of a questionnaire. As a result, it was decided that it would be sufficient to use one question from each stage rather than 6, as had been collected previously. In terms of the BWISE measure, as this is standardised and only used in its entirety it was not reduced or changed in any way. However, the decisional balance and health locus of control scales, have again been used with varying numbers of items, therefore reducing them was less detrimental to the integrity of the data. Finally, as the intervention did not aim

to improve nutritional knowledge, it did not seem meaningful to include this lengthy question at Time 1 and Time 2, as it was not something that was anticipated to change, rather the questions might provide some insight into variances in nutritional knowledge, and whether this related to beliefs and cognitions relating to healthy eating. Hence it would be sufficient to collect this data on a cross-sectional basis only at Time 1, to compare across groups and in relation to the other variables.

The final revised Time 2 and Time 3 measure was only two pages in length and consisted of only 24 items. This included the BWISE in full (12-items), Health Locus of Control (3-items), Decisional Balance (4-items) and the Stage of Change measure (5-items). Please see the Appendix 5 for the revised measure.

7. Analysis

The numerical data from the questionnaires were inputted into SPSS (Statistical Package for the Social Sciences). Demographic data was collected from medical notes and from the care co-ordinators. The consent form requested permission for this from the service users.

7.1 Assigning participants a stage

In terms of measuring the individuals' stage of change, a number of different methods were employed, as critically discussed in the introduction. Firstly, in accordance with Connors, Donovan & DiClemente (2004), the stage of change was assigned based on calculating the total scores for each stage (e.g. 'Precontemplation total') based on the totals of scores on the 6 items for each stage, and then calculating the mean for each

stage. The stage assigned is chosen based on whichever mean is the highest. In the event that two or more stages have the same mean, the most advanced or highest stage in the direction of Maintenance is assigned. Therefore even if someone scores 12 for Pre-contemplation, 8 for Contemplation, 6 for Planning, 12 for Action and 6 for Maintenance, they will be assigned as being in the Action stage. This is known as the 'highest score method'. As previously proposed, the reliability of this method has been criticised due to the high incidence of individual's being in more than one stage, often at opposite ends of the model (Derisley & Reynolds, 2002). To overcome this issue, a third method was also employed in the study for comparison: calculating the 'Readiness to Change' score (McConaughy, Prochaska, & Velicer, 1983).

7.2 Readiness to Change

As previously mentioned, and illustrated in the Appendix 3, the readiness to change score can be calculated by adding the total scores of all the 'active' stages in the model (Contemplation – Maintenance), and subtracting the 'inactive' stage total score (pre-contemplation), to give a score that represents the degree of readiness of an individual to make a change. This overcomes the problem of being in more than one stage at one time, and also provides an easier way in which to statistically analyse change in readiness over time, as the variable is continuous (nominal) rather than ordinal. A new variable was added to SPSS and the 'compute' function was utilised to automatically conduct this calculation for each case, and at each time point.

7.3 Improvement in Readiness to Change over time

The readiness to change score enables researchers to calculate whether intentions to change strengthen over time, and also enables comparison across groups of how people vary. However to truly compare two groups, it is not enough to look at just the score at one time point, as it is possible they have a high score, but began with a similarly high score, therefore the intervention has had little effect. Alternatively they may have a relatively high score, but started with a very low score, indicating that an intervention has been more successful. Hence there needs to be some way of assessing change in relation to baseline. To do this, the Readiness to Change score at Time 1 is subtracted from both the Time 2 and Time 3 scores. Therefore two extra variables were computed using SPSS: Time 3 minus Time 1 ($T3-T1$), and Time 2 minus Time 1 ($T2-T1$) to indicate change between T1 and T2, and T1 and T3 in an individual's readiness to change. This enables a more reliable comparison across the groups. To the knowledge of the researcher, this calculation has not been conducted before in the research arena, but seemed an obvious and essential addition to the calculations.

7.4 Adjusting scores in the Time 2 and Time 3 measures

Due to the fact that the Time 2 and Time 3 measures were reduced in length, it was important to ensure that comparisons with the longer Time 1 measure could still be made reliably. Although not ideal, and a clear limitation, this was achieved by multiplying the total scores to achieve an equivalent score. For example, at Time 2 & 3, the total Internal Health LoC scores were within a range of 1 to 6, whereas at Time 1 they were between 6 and 36 due to the fact that there were 6 questions for this item as opposed to one, each with 6 possible responses on a Likert scale. Therefore at Time 2 and 3, the totals were given 'adjusted scores' which were simply multiplied by 6.

Equally it would have been viable to divide the Time 1 score totals by 6 to make an equivalent score. This was also conducted for the Chance- and Powerful Others Health LoC scores. In terms of the Decisional balance items, at Time 1 there are 8 items referring to the 'Cons' of healthy eating, whereas at Time 2 and 3, there were only 4, therefore the total scores were doubled to account for this and allow for comparison with Time 1. The readiness to change scores require totals for each of the 5 stages of change. As there are 20 items at Time 1 (4 for each stage), as opposed to only one at Time 2 and 3, the Time 1 readiness to change scores were calculated using mean scores to make them equivalent for cross comparison.

7.5 Normality in the data

To establish whether the data was normally distributed, histograms were created, Skewness and Kurtosis calculated, and a K-S test performed, to ascertain whether or not non-parametric versions were required.

7.6 Demographic differences across the groups

Statistical checks were made to ensure that there are no significant differences in terms of demographics, weight, height and length of time in the EI team across the PNI, TAU and Control groups.

7.7 Statistical tests

For all ordinal data (Likert scales), non-parametric tests such as the Kruskal-Wallis and Friedman Test were used. Assuming normality in the data, all continuous data (e.g. total scores) were analysed using Multivariate Analysis of Variance (MANOVA) whereby it was possible to analyse all three groups over three time points, and paired and

independent samples t- tests wherein there were only two time points or groups for comparison. Correlation analyses were used to look for inter-relationships within the data, for example whether or not beliefs about perceived health-related control over one's health was related to behavioural change. Chi-square analysis was used to analyse the categorical data.

Chapter 3: Results

Descriptive Statistics

A total of 73 participants took part in the study, completing data at least at Time 1, including 30 in the PNI group, 21 in the TAU group, and 22 in the clinical group. A total of 50 took part at Time 1 and Time 2, and only 16 took part at all three time points. Attrition rates are illustrated in Figure 9 below:

	Time 1	Time 2 (% attrition from Time 1)	Time 3 (% attrition from Time 1)
PNI group	30	25 (17)	6 (76)
TAU group	21	16 (24)	6 (63)
Control group	22	9 (59)	4 (56)

Figure 9. Response and Attrition rates over the three time points.

1. Test for Normality in the data

To test that the data was normally distributed for each variable, a number of methods were employed. Firstly the degree of ‘Skewness and Kurtosis’ was considered and histograms generated to consider the distributions of the data. As this was inconclusive and therefore somewhat unreliable, a test for normality in the data was conducted: the Komorogov- Smirnov (K-S) Test.

The K-S Test for normality within the data showed that some of the variables were significant ($p<.001$) and therefore not normally distributed, such as the Nutrition Knowledge total scores, the Decisional balance (cons) total scores at Time 1 and Time 2, the Decisional balance (pros) total scores at Time 1, the B-Wise individual items across time points, and the Internal health Loc total Time 2 and Chance health LoC total

Time 2 scores. Therefore non-parametric versions of these tests were employed. In the event of tests combining variables that were not normally distributed with those that were, a non-parametric was only employed if a significant result was obtained on the parametric test, to be more vigilant and ensure any result was reliable. Most of the results were not significant therefore non parametric versions were not necessary.

2. Demographics of the three groups, and comparisons between them

2.1 The demographics of the three groups

These can be found in Appendix 6.

2.2 Demographic Comparisons across groups

(See Appendix 8 for means and standard deviations)

2.2.1 Comparison of age across the groups

There were no significant differences between the PNI, TAU and Control group in terms of age ($F = .781$, $df=2$, $P=.462$).

2.2.2 Comparison of Gender across the groups

There were no significant differences between the PNI, TAU and Control group in terms of gender ($X^2 = .735$, $df = 2$, $p = .692$).

2.2.3 Comparison of Ethnicity across the PNI & TAU groups

There were no significant differences between the PNI, TAU and Control group in terms of ethnicity ($U = 249.00$, $p = .057$).

2.2.4 Comparison of weight across the groups

Significant differences were found between the PNI, TAU and Control group in terms of weight ($F= 3.468$, $df=2$, $P < .05$). The mean weight for each group appears to indicate that the PNI group ($M = 87.4\text{kg}$) consisted of individuals with a greater weight than the TAU group ($M = 72.9\text{kg}$), which in turn had individuals with a greater weight than the control group ($M = 68.8\text{kg}$).

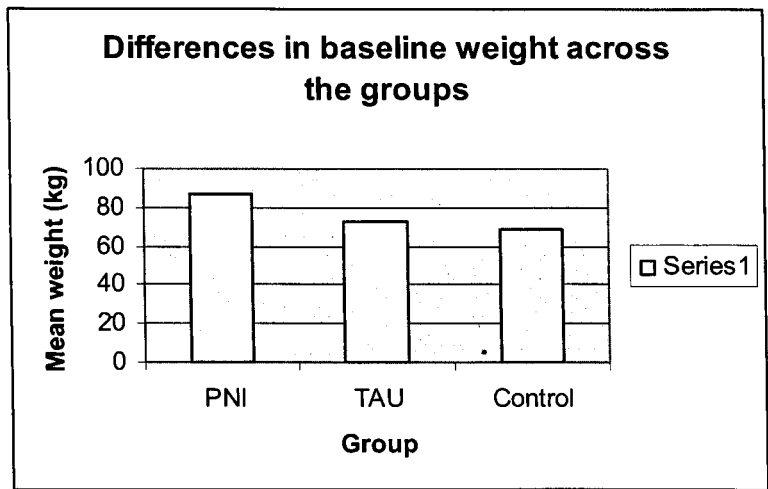


Figure 10. Differences in mean weight at Time 1 across the three groups

2.2.5 Comparison of height across groups

No significant differences between the PNI, TAU and Control group were found in terms of height ($F= .541$, $df=2$, $P=.585$).

2.2.6 Comparison of Time seen by the Early Intervention Teams across groups (PNI and TAU only)

There were no significant differences in the time seen by the early intervention team between service users in the PNI and TAU groups ($t= -1.214$, $df=48$, $p = .213$).

* Please see Appendix 7 for individual Nutritional Knowledge Items frequencies

Statistical Analyses

** For tables containing Descriptive information such as Means and Standard Deviations associated with the following analyses, please see Appendix 8.*

Choice of statistical test

A Factorial ANOVA (3x3 model) was used to look for differences in the key variables over time, and between the three groups, reporting the Wilks Lambda statistic. As Nutritional Knowledge and Decisional Balance (Pro) items were only collected at Time 1, a one-way ANOVA was conducted for these measures. The 'Stage of Change' item is categorical and therefore required a non-parametric test. On-way Kruskal Wallis Tests for each group were conducted, as it is not possible to use a 3x3 design. To reduce the likelihood of a Type 1 error, only correlations with a significance of .001 were deemed to be statistically significant, and therefore included.

Factorial ANOVA results

1. Readiness to Change

There were no significant differences in Readiness to Change scores over the three time points, and across the groups ($F = .722$, $df=6$, $p=.637$).

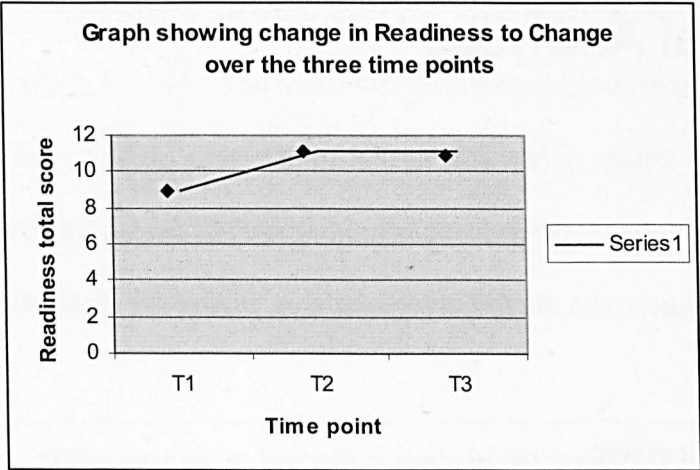


Figure 11. Graph showing change in Readiness to Change scores over Time 1, Time 2 and Time 3 in the PNI group.

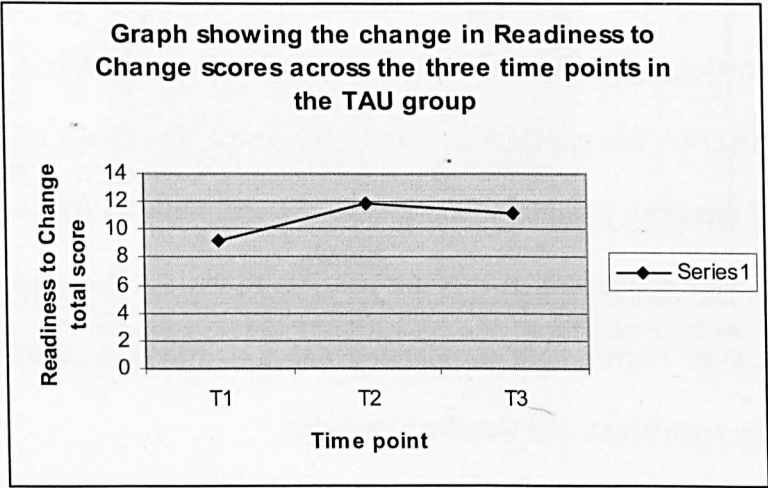


Figure 12. Graph showing the change in Readiness to Change total scores across the three time points in the TAU group.

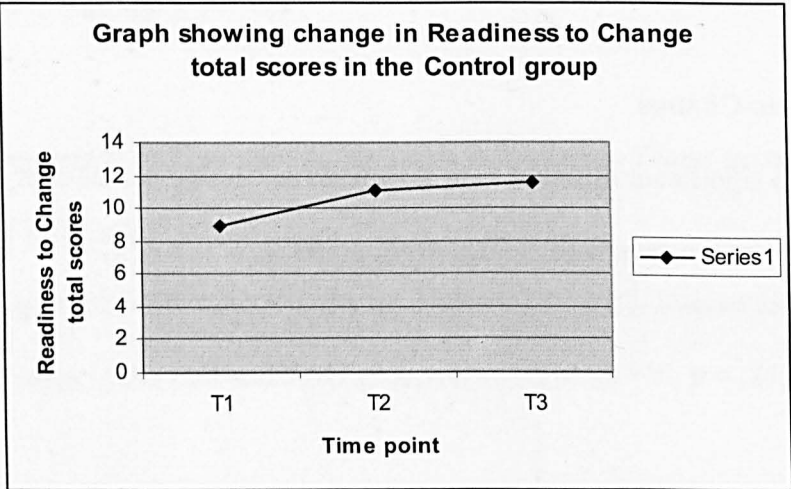


Figure 13. Graph showing the change in Readiness to Change total scores over the three time points in the Control Group.

2. Health Locus of control

2.1 Internal Health Locus of Control

There were no significant differences in Internal Health Locus of Control over the three time points, and across the groups ($F = .292$, $df=6$, $p = .934$).

2.2 Chance Health Locus of Control

There were no significant differences in Chance Health Locus of Control over the three time points, and across the groups ($F = .476$, $df=6$, $p = .818$).

2.3 Powerful Others Health Locus of Control

There were no significant differences in Powerful Others Health Locus of Control over the three time points, and across the groups ($F = 1.519$, $df=6$, $p = .223$).

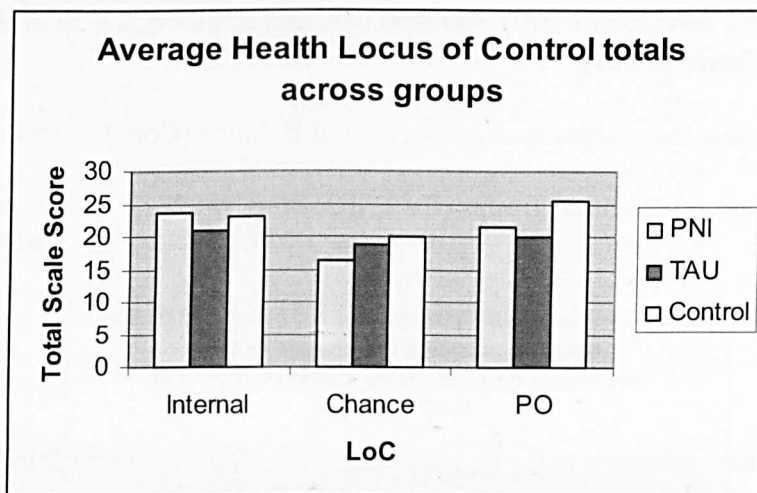


Figure 14. Graph showing the average mean Health Locus of Control scores for Internal, Chance and Powerful Others LoC across all three time points.

3. BWISE

There were no significant differences in the BWISE scores over the three time points, and across the three groups ($F=.722, df=6, p=.637$).

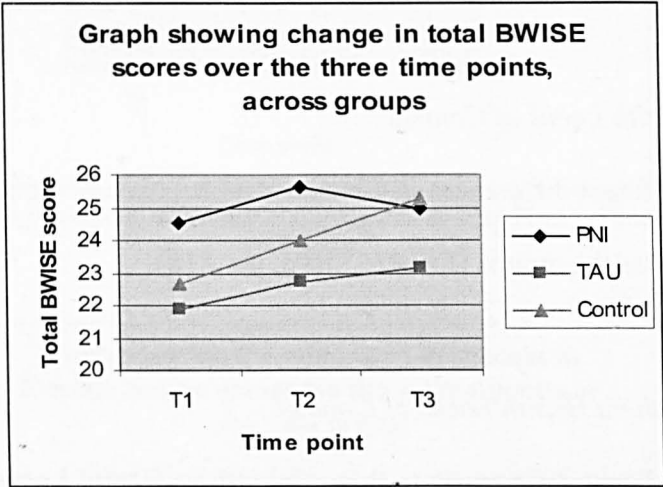


Figure 15. Graph showing change in 'Body Weight Image and Self Esteem' Questionnaire total scores across Time 1, 2 and 3 across the PNI, TAU & Control groups.

4. Decisional Balance (Cons)

There were no significant differences in Decisional Balance (Cons) scores over the three time points, and across the three groups ($F=1.402, df=6, p=.267$).

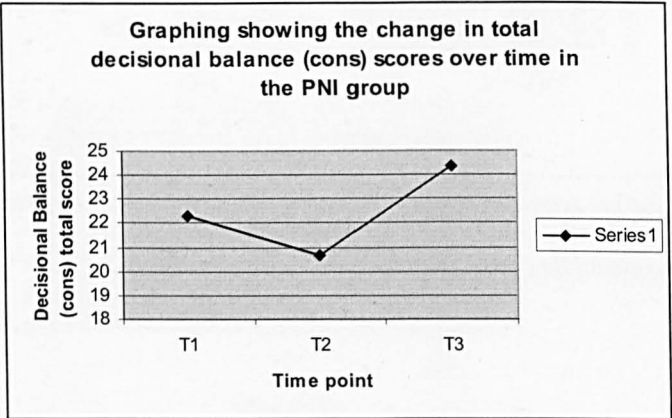


Figure 16. Graph showing the change in perceived decisional balance (cons) scores over the three time points in the PNI group.

Non-parametric Statistics: Within Group Analysis

1. Psycho-Nutritional Intervention (PNI) Group

1.1 Stage of Change in the PNI Group overtime: Based on the highest stage score method

No significant differences were found in the Stage of Change scores over three time points ($X^2 = 3.647$, $df = 2$, $p = .161$), and between Time 1 and Time 2 ($Z = -1.671$, $p = .095$).

2. Treatment as Usual (TAU) Group

2.1 Stage of Change in the TAU Group overtime: Based on the highest stage score method

No significant differences were found in the Stage of Change scores over the three time points ($X^2 = .300$, $df = 2$, $p = .861$), and also between Time 1 and Time 2 ($Z = -1.440$, $P = .150$).

3. Control Group

3.1 Stage of Change in the Control Group overtime: Based on the highest stage score method

No significant differences were found in the Stage of Change scores over time ($X^2 = 1.400$, $df = 2$, $p = .497$), and also between Time 1 and Time 2 ($Z = -1.633$, $p = .102$).

Between Groups Analysis

1. Comparison of Stage of change across groups based on highest score

1.1 Comparison of Stage of Change across groups at T1

There were no significant differences between the PNI, TAU and Control group in terms of stage of change over the three time points ($X^2 = 2.564$, $p = .347$).

1.2 Comparison of Stage of change across groups at T2

There were no significant differences found between the PNI, TAU and Control group in terms of stage of change between Time 1 and Time 2 ($X^2 = .347$, $p = .841$).

1.3 Comparison of Stage of change across groups at T3

There were no significant differences found between the PNI, TAU and Control group in terms of stage of change over the three time points ($X^2 = .524$, $p = .770$).

2. Change in Readiness to Change scores across time points between groups (T3-T1)

2.1 Comparison of Readiness to Change (T3-T1) across groups

There were no significant differences between the PNI, TAU and Control group in terms of Readiness to Change (T3- T1) scores ($F = .558$, $df = 2$, $p = .586$).

2.2 Comparison of Readiness to Change (T2-T1) across groups

There were no significant differences between the PNI, TAU and Control group in terms of Readiness to Change scores (T2-T1) scores ($F = .730$, $df = 2$, $p = .488$).

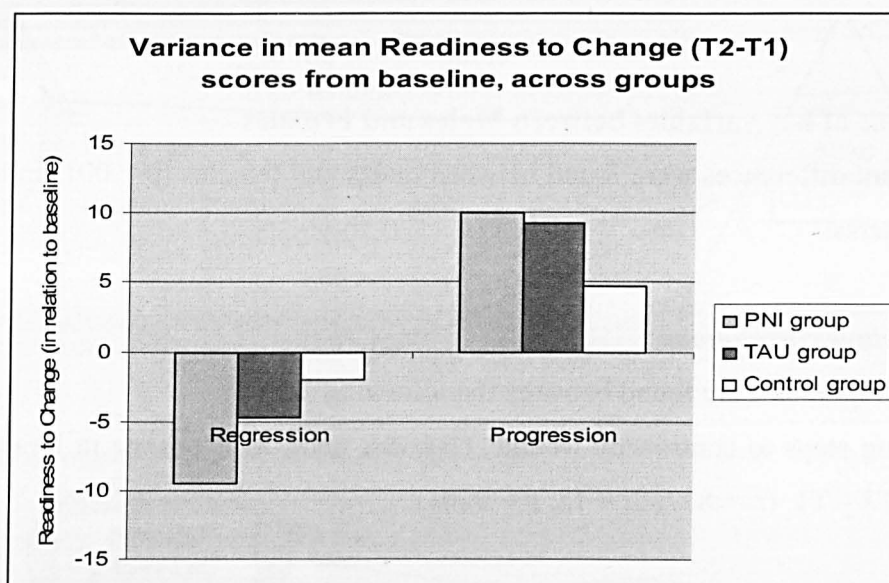


Figure 17. Graph to indicate the degree of negative change in readiness scores between Time 1 and Time 2 (regression), and positive change in readiness scores between Time 1 and Time 2 (progression), between the three groups.

3. Comparison of Nutritional Knowledge across Groups

3.1 Comparison of Nutritional Knowledge across groups at T1

There were no significant differences in nutritional knowledge of individuals in the PNI, TAU and Control Groups at Time 1 ($X^2 = .061$, $df=2$, $p=.970$).

4. Comparisons of Positive Beliefs (Pros) relating to healthy eating

4.1 Comparisons of positive beliefs (pros) relating to healthy eating across groups at Time 1

There were no significant differences in Positive beliefs (Pros) relating to healthy eating across the PNI, TAU and Control groups at Time 1 ($F = 1.832$, $df = 2$, $p = .169$).

Correlations

Comparisons of key variables between Males and Females

No significant differences were found between males and females ($p < .001$) in terms of any of the items.

1. Positive correlations

Positive correlations were found between the following items:

‘I am taking steps to control my weight’ (BWISE item) and change in Readiness to Change at T3 – T1 ($r = .837$, $df = 15$, $p < .0001$).

Decisional Balance (Cons) T1 total and ‘Whatever goes wrong with my mental health is my own fault’ ($r = .430$, $df = 2$, $p < .0001$).

Decisional Balance (Pros) total and the following: ‘As far as I am concerned, don’t need to eat healthily’ (Pre-contemplation item) ($r = -.520$, $df = 61$, $p < .0001$); ‘Recently I have started to eat healthily’ (Action item) ($r = .499$, $df = 62$, $p < .0001$).

‘Eating more healthily would make me feel better about my appearance’ (Decisional Balance Pros item) and ‘Recently I have started to eat healthily’ (Action item) ($r = .554$, $df = 63$, $p < .0001$).

2. Negative correlations

Negative correlations were found between the following items:

Time seen by the EI team and the following: Weight ($r = -1.000$, $df = 2$, $p < .0001$); ‘Things that affect my mental health happen to me by chance’ (Chance Health LoC item) ($r = -1.000$, $df = 2$, $p < .0001$) and ‘Whatever goes wrong with my mental health is my own fault’ (Internal Health LoC item) ($r = -1.000$, $df = 2$, $p < .0001$).

‘Generally I am feeling good about myself’ (BWISE item) and ‘I am upset with my present weight’ (BWISE item) ($r = -.503$, $df = 72$, $p < .0001$).

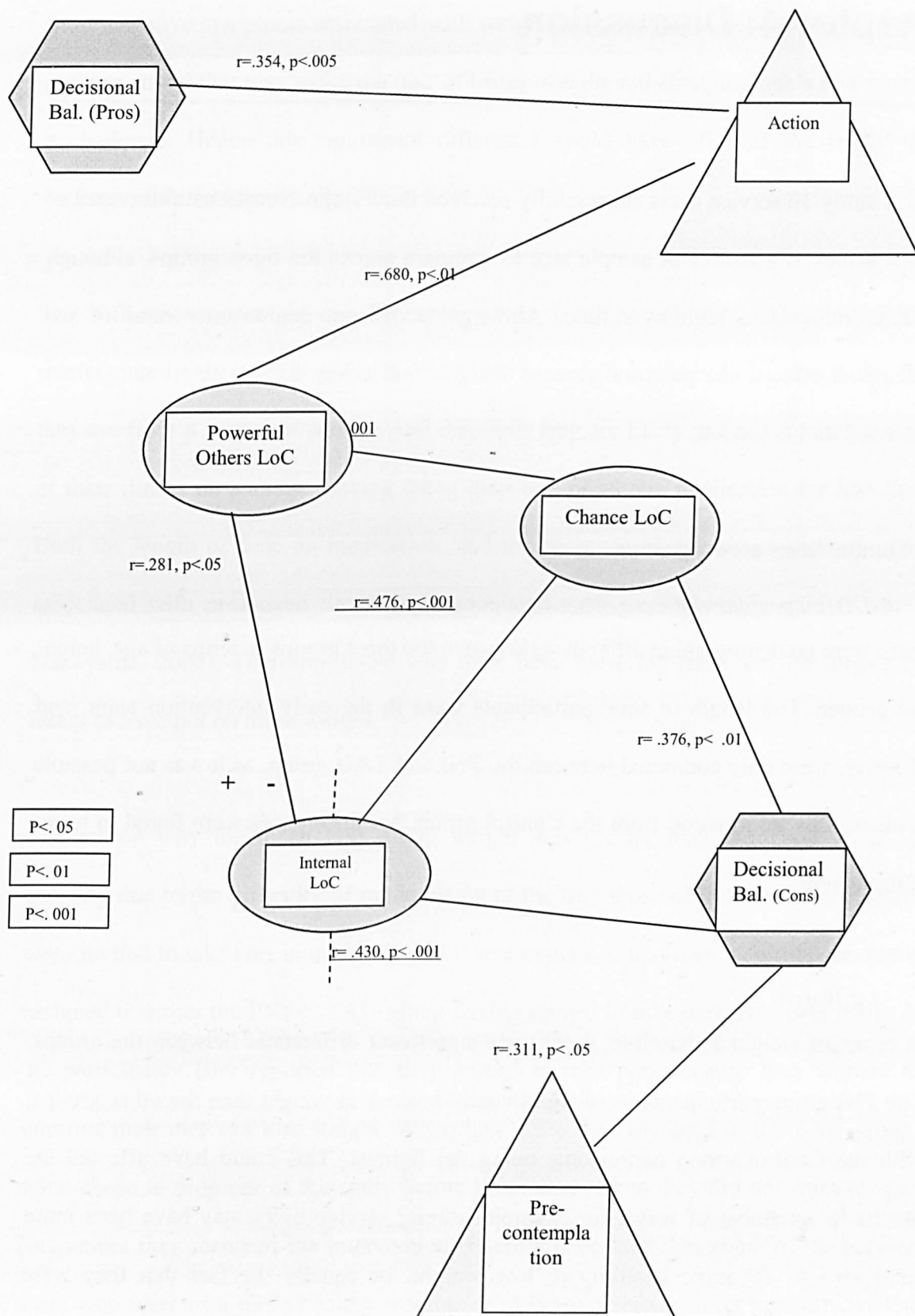


Figure 18. Diagram to show the presence and strength of positive and negative inter-relationships (correlations) between key antecedents of behaviour change (healthy eating).

Chapter 4: Discussion

In this study 30 service users successfully received the Psycho-Nutritional Intervention, and it achieved a sufficient sample size to compare across the three groups, although attrition rates were high over time. Although it did not demonstrate most of the anticipated effects, the potential reasons for this and a key finding that emerges are discussed in this section.

1. Comparisons across groups

1.1 Demographic differences between the groups

There were no demographic differences between the three groups in terms of age, height and gender. The length of time participants were in the early intervention team, and ethnicity, were only compared between the PNI and TAU group, as it was not possible to obtain this information from the Control group. No differences were found in terms of these items.

1.2 Weight

In terms of weight at baseline, there were significant differences between the groups. The PNI group participants were significantly heavier in weight than the other groups, with the Control group participants being the lightest. This could have affected the results in a number of ways, for example heavier service users may have been more motivated to eat more healthily to lose weight, or equally the fact that they were heavier, may be due to the fact that they were less likely to benefit from interventions because they were less motivated to lose weight, or had tried strategies in the past that had failed – hence the weight gain. They may also represent a group that presents with

more negative symptoms associated with weight gain, such as a lack of energy, apathy and low mood that may make the task of losing weight and changing one's diet more of a challenge. Hence this significant difference could have affected the results and findings of this study in a significant way.

The difference in weight can be explained in a number of ways. The finding that participants in the control group were lighter in weight is likely to be due to the fact they are from a very new service, and therefore they are likely to be in an earlier stage of their illness on average, having taken their anti-psychotic medication for less time. Both the length of time on medication, and the presence of negative symptoms more associated with prolonged illness, are associated with greater weight gain (Koya & Nakayama, 2005). Therefore those who have been receiving treatment for longer are likely to have put on more weight.

The reason why the mean PNI group weight was greater than the TAU group, is possibly due to the difficulty of randomising in the true sense of the word. Participants were invited to take part in the study and it was explained that they would be randomly assigned to either the PNI or TAU group having agreed to take part. However many of the participants later reported that they agreed to take part because they wanted to improve their diet and lose weight. When they were then assigned to the TAU group, some chose to drop out of the study before it commenced as they did not want to take part unless they received the intervention. Equally it seemed that some of the service users who were at a more healthy weight, or reported already eating healthily, stated that they didn't want to take part at all because they didn't need to. Hence if there was no incentive to take part, many service users chose not to. This eventually led, it

appears, to a PNI group with an average weight that was slightly higher than the TAU group. Therefore due to the fact that participation was voluntary, and individuals could withdraw at any time, meant that a true process of randomisation was difficult, and that the sample may in fact have been self selected to some degree.

2. Key Findings

2.1 Stage and Readiness to Change

No significant differences were found in terms of the between group differences in stage of change of individuals at Time 1, Time 2 or Time 3. Equally, there were no significant differences in terms of Readiness to Change total scores between the groups at Time 1, Time 2 and Time 3. Therefore individuals appeared to be at similar stages in terms of intention to change across the three time points, and baseline levels were also similar despite the differences in weight across the groups. It is possible that in the PNI group, stage of change may have been more associated with the desire to lose weight as opposed to improving diet per se, in comparison to the lighter weight individuals in the control group. However this was not measured in the study.

Having looked at the findings of the Kruskal Wallis test, in terms of within group differences in the PNI group, there were no significant differences in Stage of Change across the two and three time points. However the mean scores did indicate that there was a forward progression across the stages, appearing to suggest an improvement in terms of a temporal stage progression. Equally, in the MANOVA analysis the readiness to change scores were also not significant across the three time points. However again the means show that they did increase, reaching a plateau at Time 2. Nonetheless,

unexpectedly the means also suggest improvement over time also in both the TAU and Control Groups.

2.1.1 Potential reasons for this unexpected finding

The finding that both the mean stage of change and readiness to change scores appear to have unexpectedly improved in the Control group as well as the PNI and TAU group, and to an even greater degree, notably contradicts the prediction that the PNI group would produce the greatest change, followed by the TAU and then Control group. The fact that the Control group exhibited change over time as well as the PNI and TAU group may illustrate that social desirability effects have played a role in influencing the results of this study. For example, individuals may answer subjectively rather than objectively as they wish to present themselves in favourable light. However this does not explain why there was improvement in this group over time as well. It is possible that participants who are repeatedly asked questions about their eating, recognise that it measures change over time, and want to appear to be making changes to their diet, stating they are now doing so.

Nevertheless another possible explanation is that simply discussing the issue of healthy eating, and getting people to reflect on their thoughts and beliefs regarding the subject is in fact enough in itself to spur people to change, at least cognitively, and that in stating at Time 1 'I strongly agree' that I have been thinking that I should change my diet in the next few weeks, brings the subject to their conscious attention and actually results in a forward progression in terms of their stage of change and intention, if not behaviour change itself. If this is the case then the intervention itself would not be needed, just a regular reminder of the subject and a prompt of an individual's current thoughts and behaviour with regards to healthy eating, as a reminder, prompt and reinforcement that

alone is enough to elicit positive change. Unfortunately it is difficult to conclude whether it is social desirability effects that explain the findings or this latter explanation. Other explanations are discussed shortly.

2.2 Health Locus of Control

There were no significant differences between Internal- and Chance Health Locus of Control scores between the three groups, at all three time points. However analysis of the means appears to suggest that individuals in the Control group had higher mean Powerful Others scores than the PNI and TAU groups, and also than the group's own mean Internal or Chance scores. Conversely the PNI group had higher Internal scores, which was also found in the TAU group. However, intriguingly the Chance mean total scores were almost as great as the Internal scores in the TAU group.

Figure 13. indicates that although scores are relatively similar, there may be some subtle differences, and indeed the PNI group do appear to be slightly more 'Internal' in presentation, whereas the Control group is more 'Powerful others'. If this is the case then it could be explained in so far as the PNI group intervention aims to increase an internal sense of control so that individuals recognise there is a great deal that they can do to help themselves in terms of their health, and healthy eating. Higher Powerful Others scores in the Control group may be due to the fact that these individuals have recently begun treatment in the Early Intervention Team and have the belief that 'Powerful Others' such as doctors and nurses will take control and manage their health, whereas it is possible that the PNI and TAU group who have spent more time in the EI team, have come to realise the role that they can play in helping themselves, as this is the very ethos fostered in Early Intervention.

Having observed the Univariate statistics of the MANOVA, and the means, in the PNI group there were no significant changes over time in terms of Internal-, Chance-, and Powerful Others Health LoC. It was predicted that individuals in the PNI group would feel more Internal control for their health over time and in comparison with the TAU and Control group, as a result of the effects of the intervention. However this result was not found in the results of the analysis, which appears to indicate that the intervention does not increase an individual's sense of control and empowerment.

There is one key reason why these results may have occurred. The Multidimensional Health Locus of Control Scale focuses on the degree of control an individual perceives they have over their general health, rather than just over their diet and eating habits. Therefore it is possible that the participants did feel that they had more control over their ability to eat more healthily, but not for their health in general. Hence a principal limitation is that the measure should have been adapted to just ask questions about control for healthy eating specifically, or at least included additional questions to this effect.

2.3. Decisional Balance

There were no significant differences in terms of decisional balance (cons) total scores across the three groups at all three time points; and also in terms of decisional balance (pros) total scores across the three groups at Time 1. There were no significant differences in Decisional balance (Cons) totals in the PNI, TAU and Control groups over two and three time points.

It was expected that Decisional Balance (Cons) scores would reduce in the PNI group but not in the TAU and Control group. Therefore the degree of positive and negative

beliefs relating to healthy eating appeared to be similar across the groups. However, analysis of the means suggests that the PNI group started with the highest Cons scores, but this reduced slightly by Time 3, whereas the TAU and Control groups increased steadily, with the latter increasing from a low mean of 2.517 at Time 1, up to 6.110 at Time 2. Therefore the PNI was the only group to reduce scores between Time 1 and Time 3, suggesting the intervention may have had a positive effect, although not significant, in this regard. A longitudinal analysis of Decisional Balance (Pros) items was not conducted due to the need to reduce the number of items at Time 2 and Time 3. However ordinarily would have been conducted also, and is a limitation.

2.4 Nutritional Knowledge

There were no significant differences in terms of nutritional knowledge between the three groups at Time 1. However the Control group mean was slightly higher. Looking at the group overall, most service users had a good understanding of basic nutritional knowledge, for example 62% recognised that sardines were a good source of omega 3, and 80% knew that this mineral was important for mental as well as physical health. The majority knew that obesity can lead to heart disease and diabetes (93.5% and 85.2% respectively), and that the wrong foods can affect memory and concentration (80%), and make you feel more tired (85.5%). Based on this, and bearing in mind the research to suggest that this clinical group consumes a poor diet, it is plausible that eating behaviours are not due to a lack of knowledge, but rather other factors.

Both the TAU and the PNI groups received standard nutritional care from a nutritionist. Part of this service involves educating individuals about nutrition for both their mental as well as physical health. Therefore it was predicted that service users in the PNI and TAU groups would have more nutritional knowledge than the Control group. The fact

that this was not found to be the case could be because service users in Manchester Early Intervention Team had more knowledge at baseline due to factors relating to education and background. It is also possible that they have been given unofficial information and advice as part of their care in Manchester EI time, as although they do not have a nutritionist working with them, on discussion with the nurses following the study, it was clear that many had read basic information on the subject and at some point passed this on to their service users.

It was unfortunate that it was not possible to look at changes in nutritional knowledge over time. However as the PNI group intervention does not include the provision of nutritional teaching, as it is a psychological intervention, an increase in nutritional knowledge for comparison would not be predicted. Due to the fact that there were little differences between those receiving nutritional care and those who weren't in terms of knowledge, may suggest that providing information alone is not enough, and therefore the need for a psychological intervention such as the PNI exists, if behaviour fails to change. The equal knowledge in the control group may also explain why they scored similarly to the other two groups.

2.5 Body weight and self esteem

Although not significant, the PNI group had higher mean BWISE total scores than the TAU and Control group at Time 1 and Time 2, although not at Time 3. This suggests that the PNI sample may have contained more individuals that were unhappy with their weight and subsequent functioning, possibly biasing the findings. However, according to the means, at Time 3 the Control group now had greater scores than the other two groups. This finding is in line with the predictions, in so far as the negative effects of weight, possibly associated with anti-psychotic use, would increase over time for those

that are drug naïve as the effects took hold. However it does also infer that as the PNI group increased the least (see Figure 14), hence the intervention played a role in dealing with the psycho-social effects of weight gain.

2.6 Correlations

Having conducted bi-variate correlations with key variables, few significant positive and negative relationships were found at $p < .001$, the level required to assure a Type 1 error was not made due to the high number of correlations being conducted.

The length of time that an individual had been seen by the early intervention team was negatively related to Chance and Internal Health LoC scores, and Weight. This seems to suggest that as a result of receiving help from Powerful Others (e.g. healthcare professionals), service users may be more likely to rate their health as something that is in their control. This could have a positive effect if it means a relationship with healthy eating that includes following advice from powerful others and seeking support with this, rather than feeling it is solely up to them; but equally it could mean that they don't take control for their health, and don't realise the responsibility and active involvement that is required.

The finding that a longer time in EI was associated with lower weight is interesting as you would expect it to be associated with a greater weight, as the longer service users are in the service, the longer they have been on medication associated with weight gain. It is possible that this group either did not experience anti-psychotic-related weight gain, or that they were already beginning to deal with this issue effectively.

3. Other underlying processes

There are a number of potential factors that might influence eating behaviour in this group that potentially require further investigation. For example, eating unhealthily may be a form of self harm in that individuals eat a poor diet because they don't care about their health, think of themselves as undeserving of healthy food and are instead deserving of being overweight and unhappy. It is also possible that individuals with psychosis develop delusions related to their food and diet, such as the belief that it is poisoned (Peckenpaugh & Poleman, 1995). Similarly eating disorders may be prevalent but not recognised, assessed and treated (Yum, 2005). Furthermore, there are other influential cognitions such as the notion of positive and negative expectancies as a result of change, that may not be considered in Decisional Balance items (Jones & McMahon, 2006), forms of social support (Verheijden et al., 2005), emotional eating and familial eating habits (Jahnke & Warschburger, 2008); and lastly the concept of anticipated regret.

The fact that the Rotherham EI Team groups (PNI and TAU) did not seem to benefit from the psychological intervention to a significantly greater extent than the Control group, is possibly due to the fact that they had been in a service for longer, as previously discussed. It is possible that cognitive problems due to the psychosis or medication may explain poor engagement and application of the intervention (Knolle-Veentjer et al., 2008), and equally the PNI group weighed more which may be indicative of more prolonged anti-psychotic use. Overall this group are likely to lack motivation, concentration and struggle with recalling information and remembering to do things, due to the side effects of medication and also the presence of more negative symptoms in their psychiatric presentation.

4. A new hypothesis

The correlation diagram² (Figure 17) suggests that the issue of empowering an individual and increasing an 'Internal Health Locus of Control', may be problematic. Strong relationships existed between an Internal LoC and positive outcomes such as higher Readiness to Change scores and Action/Maintenance stages of change, nonetheless it was also related to higher Decisional Balance (Cons) scores. This is not easy to explain. However one theory might be that an Internal LoC is both adaptive and maladaptive in nature. For example, for some individuals it empowers, provides more ideas about making changes, boosts self esteem and directly leads to positive changes in behaviour. However for others, recognising that they can themselves do something to change, and that it isn't as difficult as they thought may in fact be detrimental and harmful if that individual still doesn't change for whatever reason; and instead experiences guilt, lowered self esteem, shame and the feeling that there is no excuse for their predicament as they could do something about it. In trying to protect their self esteem, they might look to reasons why it is not a good idea to change to justify this. This could explain the increase in perceived Decisional Balance (Cons), which is related to Internal Health LoC. It seems therefore that for some individuals increasing control is therapeutic, but for others it is quite the opposite and could in fact be very anti-therapeutic. This theory has huge implications in terms of who is offered an intervention. It is also possible that individuals feel more control following the intervention, but on trying to change and perceived failure, this control is reduced, and therefore the intervention leads to stress itself and this in turn hinders the efficacy of the intervention.

² Please note that some correlations are not at the specified $p < .001$, therefore risk a Type 1 error.

This hypothesis is also supported by the variance in Readiness to Change (T2-T1) scores (Figure 16). This graph appears to show that although the PNI group had the greatest positive change (increase or progression) in Readiness to Change between T1 and T2, in comparison to the TAU and Control group, it also had the greatest negative change (decrease or regression). Therefore this appears to show that the intervention had a very positive effect on some individuals, but the exact opposite for others, with a worse outcome than if they had not received the intervention at all. This may relate to the concept of both an adaptive and maladaptive Internal LoC, and proposes that there needs to be a form of assessment to see who will benefit from the intervention, and who might endure negative effects, so that the service is only offered to the former. Indeed the latter may instead be better suited to receiving just the standard nutritional therapy, although Figure 16 also suggests a similar, albeit smaller, potential negative effect of the TAU intervention also.

Carels et al. (2007) suggest the need for a 'stepped care' approach whereby individuals who are less likely to progress towards the goals of treatment, are stepped up to a more intensive intervention. Perhaps the key is both motivation to change and self efficacy, which are distinct issues and may divide individuals. Therefore it would be wise to provide the intervention only to individuals in the Contemplation, Planning, Action or Maintenance stages, and those in the Pre-contemplation stage just receive standard nutritional information (with the aim of increasing Decisional Balance Pros), which may or may not lead to a forward progression in the Stages of Change model, as illustrated by the positive correlation that exists between the two. Evidently the intervention may be both therapeutic and anti-therapeutic, therefore the need to consider who receives it is vital, and the key finding of this research.

As the PNI group exhibited the greatest increase in Readiness to Change as well as the least increase, this will undoubtedly explain the lack of significant findings in favour of the PNI service, because the negative effects will have skewed the results.

5. Limitations

There are a number of limitations with the study that may in part explain the lack of predicted findings, and will irrefutably have affected the reliability and validity of the study.

5.1 Participants

The sample size was smaller than hoped, likely to be heterogeneous in terms of a number of confounding variables that were not observed, and lacked the true randomisation of an RCT. In an attempt to reliably compare the efficacy of the intervention, a part-randomised controlled trial design was employed. However randomisation was only possible to the PNI and TAU group due to the otherwise lack of participant numbers, and the unethical consequences of withholding nutritional care. As a result key differences existed between the groups, and many were also not measured because it was not possible to collect the relevant information (e.g. socio-economic status). The Control group consisted of newer patients who may have been in an earlier stage of their illness. This could affect the results in terms of their level of motivation, fewer negative symptoms, and less weight gain due to the fact they had been taking medication for less time. Furthermore, an even more meticulous approach would have included 4 groups- adding an intervention that included standard nutritional care, along with basic counselling and psycho-education. This would then confirm whether the MI

component is most effective, or that feedback and empathy in a basic counselling style format, is as clinically viable (Carels et al., 2007).

5.2 The Intervention

The quality of the intervention offered to the service users was not as great as originally anticipated. It is quite possible that the intervention would have produced more promising results had the sample been smaller, so that more attention could be paid to each individual and more follow-up offered. For example, the results of CBT for weight management have been shown to last over time, although contact was more maintained in this case (Jean-Baptiste et al., 2007). As only the researcher was offering the intervention, it was very difficult to provide any more support than just one visit and one follow-up. However in practice it would be recommended that at least two more follow-up supportive telephone calls were offered. The intervention is designed to be brief but establishing the degree of contact for optimal results is still needed.

5.3 The role of motivation and mood

A study with FEP participants (Strassnig et al., 2007) not only found that weight gain was indeed substantial in this drug naïve group, but that younger patients, and those with more negative symptoms at baseline, gained more weight. One of the key issues with engaging individuals was that they lacked motivation. Even with the skills of motivational interviewing at play, it seemed clear that some individuals did not have the drive to consider change at all, and instead presented with low mood and apathy. Negative symptoms often present later on in the illness (Belitsky & McGlashan, 1993), therefore it may be important to target interventions early. The effects of weight gain alone may lessen self esteem and lead to low mood that makes engaging in interventions more difficult.

Equally the feeling or knowledge that weight gain is the result of the medication may make individuals feel powerless to do anything about it. They may feel that they are eating what they always have and that eating less would be difficult. Therefore this may require explanation to increase control, explain why weight gain related to anti-psychotics occurs, and empower individuals to feel that they can do something about it. Intervening early to help individuals to eat more healthily, even if weight management is not a goal, will be more effective if they are presenting with fewer negative symptoms. Hence measuring these prior to the intervention may help to time the process effectively, or indeed including a prior intervention to target an individuals mood, with the use of CBT or other psychological therapies may be effective.

5.4 Measuring Cognitive and Behavioural Change

It is not clear that the service users really understood the meaning of healthy eating, and therefore their interpretation could differ significantly from that of the researchers or a nutritionist, and indeed with other participants. Therefore it would have been helpful to have compared beliefs and attitudes with actual behaviour change in terms of reported diets. Unfortunately this requires input from the nutritionist and was not feasible in the timeframe, and given his current workload. Consequently it was not possible to measure actual changes in behaviour (dietary intake) and due to the lack of equipment and issues of risk, weight was also not recorded. Instead only cognitive outcomes were measured, which may not necessarily predict behavioural change. Nevertheless, Khazaaal et al. (2007) emphasise the importance of looking at weight and eating-related cognitions as outcomes, which have been neglected in research. Therefore it can be argued that the choice of outcomes for this study was justified, although including a more objective

measure would have been beneficial. As 24-hour recall of diet is also somewhat subjective and prone to bias, measuring weight would have been more suitable.

5.5 Procedure

It was difficult to keep data collection to the strict time points, as some participants returned questionnaires straight away, and others took far more time, leading to uncontrollable variances that might have influenced the results. Equally many service users, despite written and verbal explanation, were confused about why they were asked to complete the same measures on three occasions and therefore felt that they shouldn't have to do it. This is one explanation for the poor response rate and the variance in when the questionnaires were returned.

Some key issues relate to the ability to replicate this intervention, and similar studies have been criticised due to a lack of clarity (Burke, Arkowitz & Menchola, 2003). They highlight concerns regarding what MI means and the lack of consistency in the use of the approach; including whether or not a guided manual was used, whether supervision was provided and evaluated, and whether a process of coding the therapist's interactions to ensure a fairer assessment of treatment fidelity was conducted.

5.6 Outcomes

During the pilot, participants did not appear to find the measures difficult or time consuming to complete. However during the study, the opposite appeared to be the case in that nurses reported that it had taken a considerable length of time for people to complete, or else they found it repetitive. This may also explain the poor response rate. It is possible that the support group in which the pilot was conducted, included service users who were more able, or less ill, as a result of the fact that they were able to attend

the group, and were happy to take part in the pilot. Hence they may have consisted of a self-selected sample that was not representative of the entire sampling population in EI. Another limitation is that the standardised measures differed in their labels of the Likert scales, which was potentially confusing. The Decisional balance scale included the label 'Neither agree nor Disagree', which is not helpful in that it does not indicate where an opinion lies and is similar essentially to someone answering 'I do not know' or indeed leaving the item blank. Therefore this should have been removed, especially as one individual ticked this for every item! Following the decision to revise the measure given to participants at Time 1 and Time 2, the number of questions relating to decisional balance items was reduced to only 4 questions. These included only negative beliefs (cons) relating to healthy eating, to assess whether these beliefs had reduced over time, meaning that an assessment of positive beliefs (pros) over time could not be made. Therefore the Time 2 and Time 3 measure should have ideally included 2 questions relating to cons, and 2 relating to pros as it is feasible that although the former did not change, perceived pros to healthy eating did increase. Unfortunately, this can not be tested.

5.7 Measuring an individual's stage or readiness to change

It is clear from the findings that different methods of collecting these data are problematic for several reasons. The Readiness to Change Scale has been used in a number of formats. This study adapted the URICA, which is a relatively long measure, and in doing so some service users found the scale to be somewhat repetitive. An individual's Stage of Change has been measured using only a very basic algorithm of four questions with YES/NO answers to assign an individual to one of four rather than five stages 'Precontemplation', 'Contemplation' and 'Action' and 'Maintenance'

(Cancer Prevention Research Center, 1991). This method might have been preferable to use in this study for two reasons. Firstly because it would have been far easier and quicker for participants to fill in, and therefore the response rate may have been higher. Secondly, depending on the pattern of answering, an individual can only ever be in one stage. Therefore this removes one of the main criticisms of the approach used in this study – the ambiguity of assigning a stage to an individual. Other methods have included asking individuals precise questions about the degree of activity in a certain behaviour (Cancer Prevention Center, 1991). This may also have proven preferable, although with so few questions individuals may be more likely to answer in such a way that creates bias and social desirability effects. In using the longer measures, the opportunity to understand changing cognitions is achieved, and patterns of answering that may reduce the reliability of the findings can be assessed.

It is possible that change through the stages is not always recognised in the measures, due to the fact it is immediately followed by a regression in between the collection of data. Therefore someone could move to action very quickly but following relapse, regresses to a state of pre-contemplation due to perceived failure or the inability to exert action. Equally it is difficult to quantify and be clear about what constitutes 'Action', perhaps emphasising the need to split the overall behaviour of healthy eating into the mini behaviours that it makes up. Some researchers have argued that individuals become 'chronic contemplators' or 'pseudo-maintainers' (Horwath, 1999), suggesting that there are interesting cognitive processes that explain an individual's process of behaviour change that cannot be summarised in such a basic way as the Stage of Change model. The authors of the model even suggest that it is feasible for people to move in alternative ways in the model, other than the predicted linear movement, for

example spiralling in a two steps forward, one back pattern (Prochaska et al., 1992). Indeed in this study, participants may have moved a stage between T1 and T2, but regress back to pre-contemplation for whatever reason and this movement is not recorded, or they choose not to respond to the next series of questionnaires because they are now pre-contemplative about change.

Research suggests that Stages of change does not distinguish between patients who will attend a follow-up weight management intervention, nor those who will lose weight (Macqueen, Brynes & Frost., 1999). Therefore it is perhaps best suited to use in the assignment, rather than evaluating the efficacy of, an intervention.

In conclusion, and in support of previous research (Prochaska et al., 1991; Sutton, 1996), this study questions the validity of Stages of Change measures, and underlines some of the difficulties of applying this theory into practice, an issue that may go unrecognised. Whether or not they reliably measure what they claim to and sufficiently incorporate the parameters that constitute behavioural change for the purpose of practical intervention, remains questionable.

6. Future Research

The idea of timing and who to offer the intervention to is important. Nguyen and Jensen (2007) argue that anti-psychotics lead to increased hunger and an inability to reach satiety, and that dietary intervention should target these two issues distinctly. They developed a diet for use in in-patient settings that aimed to achieve these aims to prevent weight gain, rather than encourage weight loss. The timing of a healthy eating intervention is therefore crucial, and other studies have also targeted change early to

prevent weight gain (Evans, Newton & Higgins, 2005). Hence there may be a distinction between preventative and curative anti-psychotic induced weight gain interventions. Equally, in line with the key finding of the study, assessment of appropriateness for intervention is needed to reduce the incidence of an anti-therapeutic effect.

7. Implications of findings

The application of Health psychology is required in this group because there is often a need, above and beyond that offered to the general public, for tailored interventions for individuals who may have added barriers to behaviour change as a result of their mental ill-health. The findings of this study suggest the need for careful consideration in terms of who receives this in-depth psychological approach, and its efficacy above that offered from standard nutritional care seems feasible, although requires further investigation.

Successful interventions should ensure:

- 1) that the individual wants to change and to receive the intervention having fully understood what it involves
- 2) they recognise it is up to them to make a change (Internal Control), but also have faith in receiving help from others (Powerful Others)
- 3) they are aware of the barriers and have set strategies to overcome these
- 4) they have set realistic goals that are unlikely to lead to guilt and negative beliefs
- 5) they resolve the psychological constraints in relation to their habitual behaviour
- 6) their mood is at a level in which they can play a proactive part in eliciting change

Figure 19. Recommendations for the design of future interventions, based on the findings of this study

8. Conclusions

Assisting individuals to change health-related behaviours, especially in the this clinical group, is a difficult and complex process. Adherence and engagement can be problematic in response to any treatment, and this may be even more so for secondary issues such as diet. However the economic burden that will result from obesity and related illnesses is vast, and therefore this area is worthy of greater attention.

A key priority for healthcare is to foster stronger links between mental and physical health services, recognising the common links that exist between the two to enable enhanced access to care from both sides. By recognising the need to refer and consider health in holistic terms, health professionals can help to target the growing, and often neglected physical health needs, of those in the mental healthcare system. By establishing links with nutritionists and dieticians, health professionals can help to encourage patients and service users to take a degree of control over their health in terms of the healthy behaviours that they engage in. The principal focus on diet solely in the context of obesity is dangerously neglecting individuals of a healthy weight with poor diets, and health psychology needs to redirect targets to include this group.

This study has evaluated the efficacy of a novel brief intervention that unlike previous work, focuses on healthy eating as well as weight loss, to include service users from Early Intervention Services. As nutrition services in mental health are set up nationally, the intervention would be well placed to compliment and enhance what is offered, and could be administered by all health professionals under guidance from a nutritionist. Interventions should be targeted at those 'ready' for change for whom increasing their internal locus of control will not have negative ramifications on their self esteem.

Empowering service users to recognise how diet can influence their health, can enable them to make choices, improve overall well-being and establish life-long control over a form of 'treatment' that is far less stigmatising than pharmacological interventions. Otherwise this clinical group remain at a substantial risk of long term mental health, neglected physical health, and the damaging psycho-social effects of being overweight.

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Appendices

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Appendix 1. Weight: Stages of Change - Short Form

1. In the past month, have you been actively trying to lose weight?

Yes / No

2. In the past month, have you been actively trying to keep from gaining weight?

Yes / No

3. Are you seriously considering trying to lose weight to reach your goal in the next 6 months?

Yes / No

4. Have you maintained your desired weight for more than 6 months?

Yes / No

Scoring

Stage	Q1	Q2	Q3	Q4
Precontemplation	No	No	No	
Contemplation	No	No	Yes	
Action	Yes on Q1 or Q2			No
Maintenance	Yes on Q1 or Q2			

Appendix 2

URICA (Short Form)

There are five possible responses to each of the items in the questionnaire:

1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree

- ___ 1. As far as I'm concerned, I don't have any problems that need changing.
- ___ 2. I'm not the problem one. It doesn't make much sense for me to be here.
- ___ 3. I am finally doing some work on my problem.
- ___ 4. I've been thinking that I might want to change something about myself.
- ___ 5. I have been successful in working on my problem but I'm not sure I can keep up the effort on my own.
- ___ 6. At times my problem is difficult, but I am working on it.
- ___ 7. Being here is pretty much a waste of time for me because the problem doesn't have to do with me.
- ___ 8. I have a problem and I really think I should work at it.
- ___ 9. Even though I'm not always successful in changing, I am at least working on my problem.
- ___ 10. I thought once I had resolved my problem I would be free of it, but sometimes I still find myself struggling with it.
- ___ 11. I have started working on my problems but I would like help.
- ___ 12. Maybe this place will be able to help me.
- ___ 13. I may need a boost right now to help me maintain the changes I've already made.
- ___ 14. I may be part of the problem, but I don't really think I am.
- ___ 15. I hope that someone here will have some good advice for me.
- ___ 16. After all I had done to try to change my problem, every now and again it comes back to haunt me.

*URICA stands for "University of Rhode Island Cancer Prevention Institute." They work on developing motivational programs for people with medical problems.

Appendix 3

URICA Scoring

Computation of a "single continuum readiness to change" score using the URICA

1. Obtain the average score per subscale using the following grid:

<u>Precontemplation</u> (PC)	<u>Contemplation</u> (C)	<u>Action</u> (A)	<u>Maintenance</u> (M)
1. _____	2. _____	3. _____	6. _____
5. _____	8. _____	7. _____	16. _____
11. _____	12. _____	10. _____	18. _____
13. _____	15. _____	14. _____	22. _____
23. _____	19. _____	17. _____	27. _____
26. _____	21. _____	25. _____	28. _____
29. _____	24. _____	30. _____	32. _____
TOTAL _____	TOTAL _____	TOTAL _____	TOTAL _____
÷ 7 = _____(avg)	÷ 7 = _____(avg)	÷ 7 = _____(avg)	÷ 7 = _____(avg)

2. Compute the "Readiness for Change" score via the following formula:

$(\text{Avg C} + \text{Avg A} + \text{Avg M}) - \text{Avg PC}$

3. Compare the Readiness for change score to the following group means. Choose the stage whose group average is closest to the computed Readiness Score:

STAGE	GROUP AVG
Precontemplation	9.3
Contemplation	11.0
Participation (Action)	12.6
Maintenance	(Not available)

EXAMPLE

1. Obtain the average score per subscale using the following grid:

<u>Precontemplation</u> (PC)	<u>Contemplation</u> (C)	<u>Action</u> (A)	<u>Maintenance</u> (M)
1. 2	2. 5	3. 5	6. 5
5. 1	8. 5	7. 5	16. 5
11. 1	12. 5	10. 4	18. 5
13. 1	15. 1	14. 4	22. 5
23. 1	19. 5	17. 4	27. 5
26. 1	21. 5	25. 5	28. 4
29. 1	24. 5	30. 5	32. 5
TOTAL 8	TOTAL 31	TOTAL 32	TOTAL 34
÷ 7 = 1.1 (avg)	÷ 7 = 4.4 (avg)	÷ 7 = 4.6 (avg)	÷ 7 = 4.9 (avg)

2. Compute the "Readiness for Change" score via the following formula:

$$(\text{Avg C} + \text{Avg A} + \text{Avg M}) - \text{Avg PC} = (4.4 + 4.6 + 4.9) - 1.1 = 12.8$$

3. Compare the Readiness for change score to the following group means. Choose the stage whose group average is closest to the computed Readiness Score:

12.8 is closest to the average for participation (action) group; thus, this consumer is probably very motivated for treatment at this time

Service user Information Sheet:

Evaluation of a Supportive Healthy Eating Service

We are inviting you to take part in a research project that is looking to improve the current nutrition service that we offer in Rotherham Early Intervention Team. This service aims to help people improve their diet and nutrition and therefore their physical and mental health. Before you decide whether or not to take part, it is important for you to understand why the research project is taking place and what it will involve. If you are interested, please read the following information, and feel free to ask if you would like more information.

Why is this research project taking place?

The aim of the project is to look at how well a new individual nutritional service works. A standard nutritional service is already offered within the team, therefore you may decide to receive this but not take part in the research study that has an additional individual service to help you to make any changes to your diet that you want to. This would just mean that you won't be asked to complete any questionnaires and wouldn't have the additional individual support. If you have any questions about the differences between the two then please speak to the nutritionist or the researcher, whose telephone numbers are at the end of this sheet.

Why have I been chosen?

We are inviting all service users from Rotherham Early Intervention Team to take part.

Do I have to take part?

Participation is entirely your decision- you do not have to take part if you do not want to. If you decide **not** to take part, then this decision will not affect the care that you receive in any way. You will be asked to sign a consent form which you will receive a copy of. This means that you agree to take part and makes sure that you understand

what the project is about. You will still be able to change your mind and take away the agreement (consent) at any time without giving a reason, and this will not affect the care that you receive from the Early Intervention Team in any way.

What will happen if I agree to take part?

If you decide to take part, you will either receive the standard nutrition service group, or the new individualised in-depth service. Which service you receive will be randomly decided. We will arrange for a suitable time for you to be visited by the nutritionist and also the researcher to ask some simple questions about your diet, alongside your views about body image and weight. Those of you in the standard nutritional service group will be seen by the nutritionist as usual. Those in the new service group will be provided with an individual service that is specifically designed to help you achieve what you would like to using specific techniques. Whatever your goals, you will be supported to make changes at your own pace and you do not have to do anything you do not want to. You will be given a written plan to follow and any problems that you might have will be regularly supported and any help offered. You will be seen by the researcher on three occasions to receive the service and complete some short questionnaires.

What do I have to do?

All you have to do is answer the questions and receive the care service that is offered to you, there are no other requirements, and there are no right or wrong answers. You do not have to answer or do anything that you do not want to and you can ask any further questions at anytime.

What are the possible disadvantages and risks of taking part?

It is unlikely that you will find the nutritional service or any of the questions asked upsetting. However should this happen you can choose to opt out of the research study or you can talk through any worries with your care co-ordinator.

What are the possible benefits of taking part?

As well as working towards helping to improve your physical and mental well-being, and manage weight, we hope that we may be able to improve the services that we offer in the future.

What if I am unhappy about something related to the research project?

If at anytime you would like to make a complaint, please talk to your care co-ordinator, or contact the researcher Emmie Earle on the number at the end of this information sheet. If you would like to make a formal complaint your care co-ordinator can provide details of who to contact about this.

Will my taking part in this study be kept private and confidential?

Yes, your name will not be used in any of the reports or information collected. The interview tapes will be stored in a locked cabinet, and any computer files will be stored on a pass-word protected computer.

What will happen if I don't want to carry on with the research project?

You are free to decide to no longer take part in the research project at any time without giving a reason, and any information collected from you will not be used. This will not in any way affect the care that you receive.

Will my GP be told if I decide if I take part?

Yes, we will send a letter to your GP to let them know that you have agreed to take part in the study.

What will happen to the results of the research project?

The information will be written up as a report and published for other health professionals to read. You are welcome to have a copy of this.

Who is organising and funding the project?

This study is funded by Rotherham, Doncaster and South Humber NHS Foundation Trust and the research is being conducted specifically within The Rotherham Early Intervention Team.

Who has checked the research project is ok to go ahead?

All NHS research is looked at by a group of people who are separate from the research, known as a Research Ethics Committee. They are there to protect your safety, rights, wellbeing and dignity. This study has been looked at and given a positive opinion by South Yorkshire Research Ethics Committee, providing permission for it to take place.

Further Information and Contact details

If you have any questions or worries about this project please do not hesitate to contact *Emmie Earle* (Researcher) on 0114 294 2011.

Thank you ☺

Consent Form

Study Number:
Participant Identification Number:

Title of Project: **The evaluation of a supportive healthy eating intervention**
Name of Researcher: **Emmie Earle**

Please initial
box

1. I confirm that I have read and understand the information sheet dated 1st October 2007 (version 2) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my care or legal rights being affected.

☐
3. I understand that relevant sections of my medical notes and data collected during the study may be looked at by individuals from Rotherham Early Intervention Team, or from Doncaster & South Humber NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.

☐
4. I agree to my GP being informed of my participation in the study

☐
5. I agree to take part in the above study.

☐

Name of Participant

Date

Signature

Name of Person
taking consent

Date

Signature

Appendix 5

Readiness to Change Eating Habits Scale

	1. Strongly Disagree	2. Slightly Disagree	3. Neither Agree nor Disagree	4. Slightly Agree	5. Strongly Agree
1. As far as I'm concerned, I don't need to eat healthily (PC)					
2. I have been eating healthily for a very long time and I plan to continue (M)					
3. I don't eat healthily and right now I don't care (PC)					
4. I am finally eating healthily recently (A)					
5. I have been successful at eating healthily and I plan to continue (A)					
6. I am satisfied with unhealthy eating (PC)					
7. I have been thinking that I might want to start eating healthily (C)					
8. I have started eating healthily within the last 6 months (A)					
9. I could eat healthily, but I'm not sure about it (C)					
10. Recently, I have started to eat healthily (A)					
11. I don't have the time or energy to eat healthily right now (PC)					

12. I have set up a date to start eating healthily within the next few weeks (P)					
13. I have managed to keep eating healthily for over 6 months (M)					
14. I have support from family & friends to start eating healthily within the next few weeks (P)					
15. I have completed 6 months of healthy eating (M)					
16. I know that healthy eating is worthwhile, I don't have time for it now, but maybe soon (C)					
17. I have been considering ways to improve my diet in the next few weeks (P)					
18. I have been eating healthily for over 6 months but worry about keeping it up (M)					
19. I really think I should work on getting started with a better diet in the next 6 months (C)					
20. I am preparing to eat more healthily in the next few weeks (P)					

Thank you for completing this questionnaire ☺

Beliefs about control and my health

	1. Strongly Disagree	2. Moderately Disagree	3. Slightly Disagree	4. Slightly Agree	5. Moderately Agree	6. Strongly Agree
1. If my mental health worsens, it is my own behaviour which determines how soon I will feel better again.						
2. As to my mental health, what will be will be.						
3. If I see my doctor regularly, I am less likely to have problems with my condition.						
4. Most things that affect my mental health happen to me by chance.						
5. Whenever my mental health worsens, I should consult a medically trained professional.						
6. I am directly responsible for my mental health getting better or worse.						
7. Other people play a role in whether my mental health gets better or worse.						
8. Whatever goes wrong with my mental health is my own fault.						
9. Luck plays a big part in						

determining how my mental health improves.						
10. In order for my mental health to improve, it is up to other people to see that the right things happen.						
11. Whatever improvement occurs with my mental health is largely a matter of good fortune.						
12. The main thing which affects my mental health is what I myself do.						
13. I deserve the credit when my mental health improves and the blame when it gets worse.						
14. Following doctor's orders to the letter is the best way to keep my condition from getting worse.						
15. If my mental health worsens, it's a matter of fate.						
16. If I am lucky, my condition will get better.						
17. If my mental health takes a turn for the worse, it is because I have not been taking proper care of myself.						
18. The type of help I receive from other people determines how soon my condition improves.						

Knowledge about Nutrition Questionnaire

Please complete the following questions about nutrition and healthy eating, by ticking one answer for each question.

1. What nutrient is most important for the body to repair and rebuild itself?

- | | | | |
|---------------|-----------------------|-------|-----------------------|
| Carbohydrates | ☐ | Fat | ☐ |
| Protein | ☐ | Fibre | ☐ |

2. Eating an unhealthy diet can lead to the following:

- | | | | |
|-------------------------|-----------------------|--------------------|-----------------------|
| Weight gain and obesity | ☐ | Poor mental health | ☐ |
| Poor physical health | ☐ | All of the above | ☐ |

3. Which vitamin can we get from sunlight through our skin?

- | | | | |
|-----------|-----------------------|-----------|-----------------------|
| Vitamin C | ☐ | Vitamin K | ☐ |
| Vitamin A | ☐ | Vitamin D | ☐ |

4. The following nutrients are all needed for strong bones apart from which one?

- | | | | |
|-----------|-----------------------|-----------|-----------------------|
| Vitamin C | ☐ | Magnesium | ☐ |
| Calcium | ☐ | Vitamin D | ☐ |

5. What nutrient is most important for a healthy immune system to fight colds and infections and to have strong bodies?

- | | | | |
|-----------|-----------------------|-----------|-----------------------|
| Fibre | ☐ | Vitamin C | ☐ |
| Vitamin K | ☐ | Fluoride | ☐ |

6. What is the best source of Omega 3 fatty acids?

- | | | | |
|----------------|-----------------------|----------|-----------------------|
| Sunflower oil | ☐ | Pork | ☐ |
| Wheat Products | ☐ | Sardines | ☐ |

7. Which mineral is important for red blood cells, and a lack of it causes anaemia?

- | | | |
|-----------|--------------------------------|-----------------------|
| Iron | ☐ Iodine | ☐ |
| Magnesium | ☐ Chromium | ☐ |

8. Which nutrient is most important for good eyesight?

- | | | |
|-----------|---------------------------------|-----------------------|
| Vitamin K | ☐ Calcium | ☐ |
| Iron | ☐ Vitamin A | ☐ |

9. What is the most important reason for eating breakfast?

- | | | | |
|--|-----------------------|-------------------------------------|-----------------------|
| To get more calories | ☐ | Because you don't eat whilst asleep | ☐ |
| To stimulate the metabolism and bowels | ☐ | All of the above | ☐ |

10. Why are processed foods bad for you?

- | | | | |
|-------------------------------------|-----------------------|---|-----------------------|
| Because they usually lack nutrients | ☐ | Because they are often high in sugar or fat | ☐ |
| Because they are often high in salt | ☐ | All of the above | ☐ |

11. Omega 3 fatty acids in the diet can help the following:

- | | | | |
|----------------------|-----------------------|---------------------------------|-----------------------|
| Just mental health | ☐ | Both mental and physical health | ☐ |
| Just physical health | ☐ | | |

Please complete the following questions, by circling whether or not you think the statement is true or false.

- | | |
|---|------------|
| 12. To have a healthy diet, everything you eat needs to be low fat | TRUE/FALSE |
| 13. Low fat dairy products such as low fat yoghurt contain less calcium than full-fat yoghurt | TRUE/FALSE |
| 14. Margarine usually has fewer calories than butter | TRUE/FALSE |
| 15. A good source of Omega 3 fatty acids is oily fish | TRUE/FALSE |
| 16. All fats are bad for you | TRUE/FALSE |
| 17. Obesity can lead to Heart Disease | TRUE/FALSE |
| 18. Obesity can lead to Diabetes | TRUE/FALSE |
| 19. Eating the wrong foods can affect memory and concentration | TRUE/FALSE |

20. Eating the wrong foods can actually make you feel more tired TRUE/FALSE

21. Increasing the amount of dietary fibre you eat can help
you to lose weight TRUE/FALSE

22. Caffeine can have a bad effect on mental health TRUE/FALSE

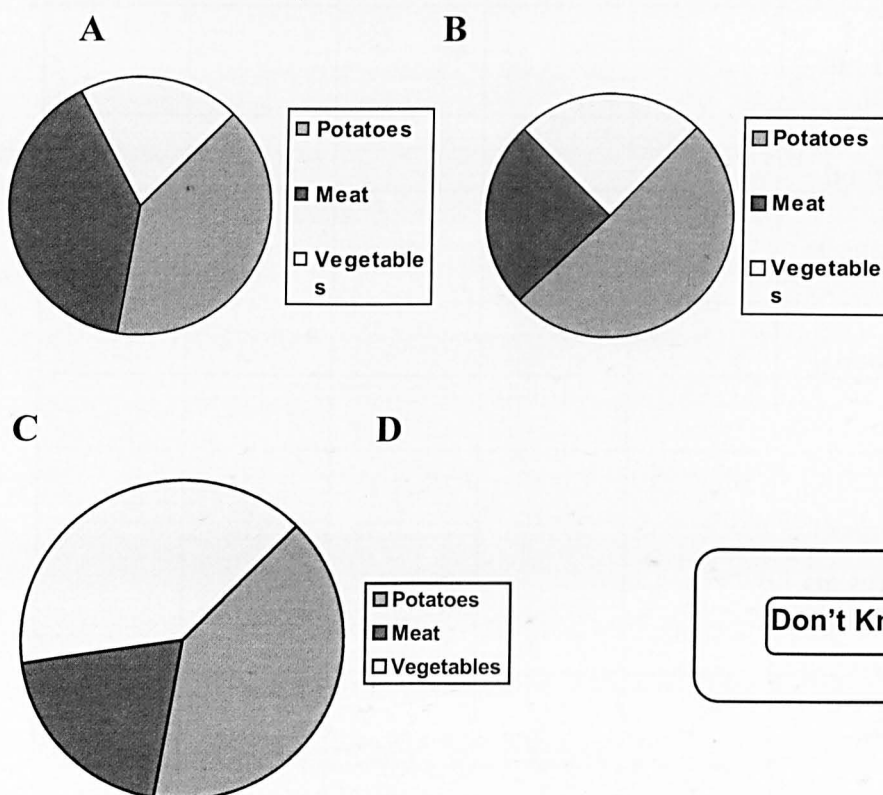
23. Alcohol doesn't make you put on weight TRUE/FALSE

24. Adding salt to my meals is not bad for my health TRUE/FALSE

25. The average man needs more calories than the average
woman TRUE/FALSE

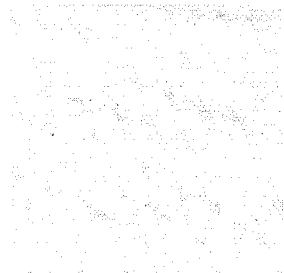
26. Fresh fruit and vegetables are better for you than tinned or frozen TRUE/FALSE

A main meal is sometimes made up of foods such as potatoes (carbohydrates), meat or vegetable substitutes (protein) and vegetables. Which of the plates below shows the 'healthiest' proportion of foods? Circle one only – A, B or C (or D if you are not sure).



Thank you for filling in this questionnaire 😊

Difficulties with trying to eat healthily



Please read the following statements and tick one box for each to decide how much you agree each.

	1. Strongly Disagree	2. Slightly Disagree	3. Slightly Agree	4. Strongly Agree	5. I don't know
1. It is too expensive to eat healthily					
2. Healthy foods are difficult to prepare and cook					
3. I do not know how to cook healthy food					
4. I think I would feel better if I ate more healthily					
5. No one I know eats healthy food					
6. Eating unhealthily is something I feel guilty or bad about					
7. Its easier to buy unhealthy food					
8. Unhealthy food tastes better					
9. I crave unhealthy foods					
10. Someone else cooks and buys my food so it is difficult to eat healthily as they choose unhealthy things					
11. Eating more healthily would make me feel better about my appearance					
12. I think people close to me would like to see me eating more healthily					

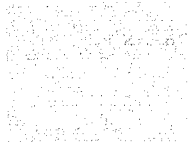
13. It would feel like an achievement to eat more healthily					
14. Trying healthy recipes and learning to cook them would be fun					
15. I think I could get used to eating more healthily and it would feel normal					
16. I think there are healthy foods that taste nice					

Thank you for filling this in ☺

Please read the following statements and tick how often in the last 1- 2 weeks you have felt these statements were true.

	Never	Sometimes	All the time
1. I am upset with my present weight			
2. I feel active and energetic			
3. I am going out to enjoy myself more often			
4. I am not able to control my hunger and craving for food			
5. I dislike the way I look			
6. I am self-conscious in the company of others because of my weight			
7. I am reminded of my body shape and appearance during the day			
8. I am avoiding friends and relatives because I am out of shape			
9. I know why I put on weight and I know how to lose it			
10. I believe that excess weight is not good for my general health			
11. I am taking steps to control my weight			
12. Generally, I am feeling good about myself			

Thank you for completing this questionnaire



Please can you tell me to what extent you agree with following statements by (tick one box for each).

	1. Strongly Disagree	2. Slightly Disagree	3. Neither Agree nor Disagree	4. Slightly Agree	5. Strongly Agree
It is too expensive to eat healthily					
Healthy foods are difficult to prepare and cook					
Its easier to buy unhealthy food					
Unhealthy food tastes better					
If my mental health worsens, it is my own behaviour which determines how soon I will feel better again.					
Most things that affect my mental health happen to me by chance.					
The type of help I receive from other people determines how soon my condition improves.					
I don't eat healthily and right now I don't care. PRE-CONTEMPLATION					
I have been successful at eating more healthily in the last month or so and I plan to continue. ACTION					
I have been considering ways to improve my diet in the next few weeks. PLANNING					
I really think I should work on getting started with a better diet in the next 6 months. CONTEMPLATION					
I have completed 6 months of healthy eating. MAINTENANCE					

How satisfied were you with the intervention and feedback that you received from Emmie?

Very Satisfied Quite Satisfied Neither satisfied or Unsatisfied Quite unsatisfied Very Unsatisfied

○ ○ ○ ○ ○

B-WISE

Please read the following statements and tick how often in the last 1- 2 weeks you have felt these statements were true.

	Never	Sometimes	All the time
1. I am upset with my present weight			
2. I feel active and energetic			
3. I am going out to enjoy myself more often			
4. I am not able to control my hunger and craving for food			
5. I dislike the way I look			
6. I am self-conscious in the company of others because of my weight			
7. I am reminded of my body shape and appearance during the day			
8. I am avoiding friends and relatives because I am out of shape			
9. I know why I put on weight and I know how to lose it			
10. I believe that excess weight is not good for my general health			
11. I am taking steps to control my weight			
12. Generally, I am feeling good about myself			

Appendix 6

1. Demographics of the three groups

1.1 Psycho-Nutritional Intervention (PNI) group

1.1.1 Gender

	Frequency	Percentage
Male	20	66.6
Female	10	33.3
Total	30	100

1.1.2 Ethnicity

	Frequency	Percentage
White British	27	90
Asian British	3	10
Total	30	100

1.1.3 Age

	N	Mean	Minimum	Maximum	Std. Deviation
Age	30	23.90	16	33	4.40

1.1.4 Weight

	N	Mean	Minimum	Maximum	Std. Deviation
Weight (kg)	28	87.36	51.00	126.00	24.54

1.1.5 Height

	N	Mean	Minimum	Maximum	Std. Deviation
Height (cm)	29	173.90	152.00	203.00	12.02

1.1.6 Time seen by the Early Intervention Team

	N	Mean	Minimum	Maximum	Std. Deviation
Time (Months)	30	20.77	6	39	9.32

1.2 Treatment as Usual (TAU) group

1.2.1 Gender

	Frequency	Percentage
Male	15	71.4
Female	6	28.6
Total		100

1.2.2 Ethnicity

	Frequency	Percentage
White British	15	71.4
Asian British	1	4.8
Asian	2	9.5
Chinese	1	4.8
White European	2	9.5
Total	21	100

1.2.3 Age

	N	Mean	Minimum	Maximum	Std. Deviation
Age	21	23.90	15	32	5.05

1.2.4 Weight

	N	Mean	Minimum	Maximum	Std. Deviation
Weight (kg)	18	72.944	48.00	108.00	16.28

1.2.5 Height

	N	Mean	Minimum	Maximum	Std. Deviation
Height (cm)	19	171.158	155.00	188.00	11.032

1.2.6 Time seen by the Early Intervention Team

	N	Mean	Minimum	Maximum	Std. Deviation
Time (Months)	20	25.16	5	69	15.91

1.3 Control group

1.3.1 Gender

	Frequency	Percentage
Male	13	59.1
Female	9	40.9
Total	22	100

1.3.2 Ethnicity

	Frequency	Percentage
White British		
Asian British		
Asian		
Total		100

1.3.3 Age

	N	Mean	Minimum	Maximum	Std. Deviation
Age	22	22.50	17	29	3.674

1.3.4 Weight

	N	Mean	Minimum	Maximum	Std. Deviation
Weight (kg)	7	68.81	42.70	108.00	22.17

1.3.5 Height

	N	Mean	Minimum	Maximum	Std. Deviation
Height (cm)	5	169.20	157.00	183.00	10.87

Appendix 7

Nutritional Knowledge items: Frequency data

1. What nutrient is most important for the body to repair and rebuild itself?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	carbohydrates	9	12.3	14.1	14.1
	protein	45	61.6	70.3	84.4
	fat	2	2.7	3.1	87.5
	fibre	8	11.0	12.5	100.0
	Total	64	87.7	100.0	
Missing	System	9	12.3		
Total		73	100.0		

2. Eating an unhealthy diet can lead to the following?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	weight gain & obesity	14	19.2	21.9	21.9
	poor physical health	6	8.2	9.4	31.3
	all of the above	44	60.3	68.8	100.0
	Total	64	87.7	100.0	
Missing	System	9	12.3		
Total		73	100.0		

3. Which vitamin can we get from sunlight through the skin?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	vit c	15	20.5	23.8	23.8
	vit A	10	13.7	15.9	39.7
	vit K	15	20.5	23.8	63.5
	vit D	23	31.5	36.5	100.0
	Total	63	86.3	100.0	
Missing	System	10	13.7		
Total		73	100.0		

4. The following nutrients are all needed for strong bones apart from which one?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	vit c	14	19.2	22.6	22.6
	calcium	16	21.9	25.8	48.4
	magnesium	23	31.5	37.1	85.5
	vit d	9	12.3	14.5	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

5. What nutrient is most important for a healthy immune system to fight colds and infections and to have strong bodies?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	fibre	9	12.3	14.3	14.3
	Vit k	3	4.1	4.8	19.0
	Vit c	43	58.9	68.3	87.3
	fluoride	8	11.0	12.7	100.0
	Total	63	86.3	100.0	
Missing	System	10	13.7		
Total		73	100.0		

6. What is the best source of Omega fatty acids?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	sunflower oil	17	23.3	27.0	27.0
	wheat products	1	1.4	1.6	28.6
	pork	6	8.2	9.5	38.1
	sardines	39	53.4	61.9	100.0
	Total	63	86.3	100.0	
Missing	System	10	13.7		
Total		73	100.0		

7. Which is important for red blood cells and a lack of it causes anaemia?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	iron	56	76.7	88.9	88.9
	magnesium	3	4.1	4.8	93.7
	iodine	2	2.7	3.2	96.8
	chromium	2	2.7	3.2	100.0
	Total	63	86.3	100.0	
Missing	System	10	13.7		
Total		73	100.0		

8. Which nutrient is most important for good eyesight?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	vit k	14	19.2	23.0	23.0
	iron	7	9.6	11.5	34.4
	calcium	1	1.4	1.6	36.1
	vit a	39	53.4	63.9	100.0
	Total	61	83.6	100.0	
Missing	System	12	16.4		
Total		73	100.0		

9. What is the most important reason for eating breakfast?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To get more calories	6	8.2	9.5	9.5
	To stimulate the metabolism and bowels	31	42.5	49.2	58.7
	Because you don't eat whilst asleep	3	4.1	4.8	63.5
	All of above	23	31.5	36.5	100.0
	Total	63	86.3	100.0	
Missing	System	10	13.7		
Total		73	100.0		

10. Why are processed foods bad for you?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Because they usually lack nutrients	2	2.7	3.3	3.3
	Because they are often high in salt	11	15.1	18.0	21.3
	Because they are often high in sugar or fat	7	9.6	11.5	32.8
	All of the above	41	56.2	67.2	100.0
	Total	61	83.6	100.0	
Missing	System	12	16.4		
Total		73	100.0	-	

11. Omega fatty acids in the diet can help the following

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Just mental health	2	2.7	3.2	3.2
	Just physical health	10	13.7	16.1	19.4
	Both mental and physical health	50	68.5	80.6	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

12. To have a healthy diet everything you eat needs to be low fat

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	17	23.3	27.4	27.4
	False	45	61.6	72.6	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

13. Low fat dairy products such as low fat yoghurt contain less calcium than full fat yoghurt

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	26	35.6	42.6	42.6
	False	35	47.9	57.4	100.0
	Total	61	83.6	100.0	
Missing	System	12	16.4		
Total		73	100.0		

14. Margarine usually has fewer calories than butter

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	46	63.0	74.2	74.2
	False	16	21.9	25.8	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

15. A good source of Omega fatty acids is oily fish

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	52	71.2	83.9	83.9
	False	10	13.7	16.1	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

16. All fats are bad for you

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	15	20.5	24.2	24.2
	False	47	64.4	75.8	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

17. Obesity can lead to heart disease

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	58	79.5	93.5	93.5
	False	4	5.5	6.5	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

18. Obesity can lead to diabetes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	52	71.2	85.2	85.2
	False	9	12.3	14.8	100.0
	Total	61	83.6	100.0	
Missing	System	12	16.4		
Total		73	100.0		

19. Eating the wrong foods can affect memory and concentration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	50	68.5	80.6	80.6
	False	12	16.4	19.4	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

20. Eating the wrong foods can actually make you feel more tired

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	53	72.6	85.5	85.5
	False	9	12.3	14.5	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

21. Increasing the amount of dietary fibre you eat can help you to lose weight

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	50	68.5	82.0	82.0
	False	11	15.1	18.0	100.0
	Total	61	83.6	100.0	
Missing	System	12	16.4		
Total		73	100.0		

22. Caffeine can have a bad effect on mental health

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	51	69.9	83.6	83.6
	False	9	12.3	14.8	98.4
	3	1	1.4	1.6	100.0
	Total	61	83.6	100.0	
Missing	System	12	16.4		
Total		73	100.0		

23. Alcohol doesn't make you put on weight

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	7	9.6	11.3	11.3
	False	54	74.0	87.1	98.4
	3	1	1.4	1.6	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

24. Adding salt to my meals is not bad for my health

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	14	19.2	22.6	22.6
	False	47	64.4	75.8	98.4
	3	1	1.4	1.6	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

25. The average man needs more calories than the average woman

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	58	79.5	93.5	93.5
	False	4	5.5	6.5	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

26. Fresh fruit and vegetables are better for you than tinned or frozen

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	True	53	72.6	85.5	85.5
	False	9	12.3	14.5	100.0
	Total	62	84.9	100.0	
Missing	System	11	15.1		
Total		73	100.0		

27. What is the correct meal proportion diagram?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	10	13.7	16.7	16.7
	B	2	2.7	3.3	20.0
	C	40	54.8	66.7	86.7
	D	8	11.0	13.3	100.0
	Total	60	82.2	100.0	
Missing	System	13	17.8		
Total		73	100.0		

Appendix 8

Full statistical analyses with mean and standard deviation scores

1. Demographic Comparisons across groups

1.1 Comparison of age across the groups

Age	N	Mean	Std. Deviation
PNI	30	23.90	4.40
TAU	21	23.90	5.05
Control	22	22.50	3.67

Between Groups ANOVA	F	df	Sig.
	.781	2	.462

1.2 Comparison of Gender across the groups

	N	Mean Rank
PNI	30	37.33
TAU	21	39.07
Control	22	34.57

Kruskall-Wallis Test	X ²	df	Sig.
	.735	2	.692

1.3 Comparison of Ethnicity across the PNI & TAU groups

	N	Mean Rank
PNI	30	23.80
TAU	21	29.14

Mann-Whitney Test	U	Sig.
	249.00	.057

1.4 Comparison of weight across the groups

Height	N	Mean	Std. Deviation
PNI	28	87.364	24.541
TAU	18	72.944	16.282
Control	7	68.814	22.168

Between Groups ANOVA	F	df	Sig.
	3.468	2	.039

1.5 Comparison of height across groups

Height	N	Mean	Std. Deviation
PNI	29	173.897	12.019
TAU	19	171.158	11.032
Control	5	169.20	10.872

Between Groups ANOVA	F	df	Sig.
	.541	2	.585

1.6 Comparison of Time seen by the Early Intervention Teams across groups (PNI and TAU only)

	N	Mean	Std. Deviation
PNI Group	30	20.77	9.324
TAU Group	20	25.10	15.914

Independent samples t- test	t	df	Sig.
	-1.214	48	.231

Factorial ANOVA Descriptives

1. Readiness to Change Score in the three groups, across the three time points

Readiness to Change	Time 1			Time 2		Time 3	
	N	Mean	SD	Mean	SD	Mean	SD
PNI	6	8.95	2.95	11.16 7	1.401	11.167	5.492
TAU	6	9.125	2.995	11.83 3	4.622	11.167	5.192
Control	6	8.933	2.657	11.06 7	4.044	11.533	4.998

ANOVA	F	df	Sig.
	.722	6	.637

2. Health Locus of Control

2.1 Health locus of Control 'Internal' Scores in the three groups, across the three time points

Internal Locus of Control	Time 1			Time 2		Time 3	
	N	Mean	SD	Mean	SD	Mean	SD
PNI	6	23.00	7.87	25.00	10.33 4	23.00	11.00 9
TAU	6	20.60	4.561	22.80	5.020	19.20	7.823
Control	6	25.50	7.188	22.50	5.745	21.00	6.000

ANOVA	F	df	Sig.
	.292	6	.934

2.2 Health locus of Control ‘Chance’ Scores in the three groups, across the three time points

Chance Locus of Control	Time 1			Time 2		Time 3	
	N	Mean	SD	Mean	SD	Mean	SD
PNI	6	19.67	8.733	17.00	10.33	12.00	9.295
TAU	6	23.20	8.927	15.60	8.050	18.00	7.348
Control	6	25.75	6.898	16.50	3.000	18.00	8.485

ANOVA							
	F			df			Sig.
	.476			6			.818

2.3 Health locus of Control ‘Powerful Others’ Scores in the three groups, across the three time points

Powerful Others Locus of Control	Time 1			Time 2		Time 3	
	N	Mean	SD	Mean	SD	Mean	SD
PNI	6	21.17	5.193	22.00	4.899	21.00	5.020
TAU	6	24.40	5.413	15.60	6.841	20.40	8.050
Control	6	27.50	3.873	24.00	4.899	25.50	3.000

ANOVA							
	F			df			Sig.
	1.519			6			.223

3. BWISE total scores in the three groups, across the three time points

BWISE	Time 1			Time 2		Time 3	
	N	Mean	SD	Mean	SD	Mean	SD
PNI	6	24.60	2.191	24.40	3.209	25.00	3.464
TAU	6	22.00	2.449	24.33	1.966	23.17	4.167
Control	6	22.75	4.856	23.75	3.862	25.25	3.096

ANOVA			
	F	df	Sig.
	.722	6	.637

4. Decisional Balance

4.1 Decisional Balance (Cons) across the three groups, at the three time points

Decisional Balance (Cons)	Time 1			Time 2		Time 3	
	N	Mean	SD	Mean	SD	Mean	SD
PNI	6	22.33	6.653	20.67	6.890	24.33	5.428
TAU	6	27.00	4.950	25.60	4.980	28.40	6.542
Control	6	24.33	2.517	31.33	6.110	27.33	5.033

ANOVA			
	F	df	Sig.
	1.402	6	.267

Within Group Analysis: Psycho-Nutritional Intervention (PNI) Group

1. Stage of Change in the PNI Group overtime: Based on the highest stage score method

1.1 Within subjects comparison of changes in Stage of Change scores at over the three time points.

Stage of Change	N	Mean	Std. Deviation
Stageofchange	6	2.50	1.225
Stageofchange_2	6	3.00	1.265
Stageofchange_3	6	3.17	1.169

Friedman Test			
	X ²	df	Sig.
	3.647	2	.161

Within Group Analysis: Treatment as Usual (TAU) Group

1. Stage of Change in the TAU Group overtime: Based on the highest stage score method

1.1 Within subjects comparison of changes in Stage of Change scores at over the three time points.

Stage of Change	N	Mean	Std. Deviation
Stageofchange	6	3.17	1.472
Stageofchange_2	6	3.33	1.506
Stageofchange_3	6	3.33	1.366

Friedman Test	X ²	df	Sig.
	.300	2	.861

Within Group Analysis: Control Group

1. Stage of Change in the Control Group overtime: Based on the highest stage score method

1.1 Within subjects comparison of changes in Stage of Change scores at over the three time points.

Stage of Change	N	Mean	Std. Deviation
Stageofchange	3	3.00	1.000
Stageofchange_2	3	3.67	1.528
Stageofchange_3	3	3.67	1.528

Friedman Test	X ²	df	Sig.
	1.400	2	.497

Between Groups Analysis

1.

1. Comparison of Stage of change across groups based on highest score

1.1 Comparison of Stage of Change across groups at T1

Stageofchange	N	Mean Rank
PNI Group	30	35.70
TAU Group	21	32.14
Control Group	21	42.00

Kruskall-Wallis Test		
	X ²	Sig.
	2.564	.347

1.2 Comparison of Stage of change across groups at T2

Stageofchange_2	N	Mean Rank
PNI Group	25	24.74
TAU Group	16	25.34
Control Group	9	27.89

Kruskall-Wallis Test		
	X ²	Sig.
	.347	.841

1.3 Comparison of Stage of change across groups at T3

Stageofchange_3	N	Mean Rank
PNI Group	6	7.75
TAU Group	6	8.33
Control Group	4	9.88

Kruskall-Wallis Test		
	X ²	Sig.
	.524	.770

Change in Readiness to Change scores across time points between groups (T3-T1)

2.4 Comparison of Readiness to Change (T3-T1) across groups

	N	Mean	Minimum	Maximum	Std. Deviation
PNI Group	6	2.208	-1.50	9.75	4.010
TAU Group	6	2.041	-1.50	5.25	2.624
Control Group	3	4.500	1.50	9.00	3.969

Independent Measures ANOVA				
	F		Df	Sig.
	.558		2	.586

2.5 Comparison of Readiness to Change (T2-T1) across groups

	N	Mean	Minimum	Maximum	Std. Deviation
PNI Group	23	1.750	-9.50	10.00	3.993
TAU Group	13	2.539	-4.75	9.25	4.378
Control Group	6	.1667	-2.00	4.75	2.691

Independent Samples ANOVA				
	F		Df	Sig.
	.730		2	.488

3. Comparison of Nutritional Knowledge across Groups

3.1 Comparison of Nutritional Knowledge across groups at T1

	N	Mean	Std. Deviation
PNI	30	19.00	5.942
TAU	21	19.62	4.031
Control	13	20.08	3.570

Kruskal-Wallis Test			
	X ²	df	Sig.
	.061	2	.970

Comparisons of Positive Beliefs (Pros) relating to healthy eating

6.2.1 Comparisons of positive beliefs (pros) relating to healthy eating across groups at Time 1

	N	Mean	Minimum	Maximum	Std. Deviation
PNI Group	29	31.69	17	40	6.487
TAU Group	20	32.20	24	40	4.938
Control Group	12	35.33	28	40	4.355

Independent Measures ANOVA				
	F		df	Sig.
	1.832		2	.169

Section C – Professional Practice

Consultancy Competence

Consultancy Competence Report 1: Nurse Prescribing Study

1. Assessment of the request for consultancy

1.1 The experience of 'being consulted upon'

I was first approached by the Psychiatrist who works in our team, Professor Malcolm Peet. He explained that a Professor from Sheffield Hallam University who also worked in the Trust's Research & Development Department, Professor Gordon Grant, was interested in conducting some research to help understand the experience for health professionals and service users of a new competence in the NHS: nurse prescribing. Prof. Grant was keen for someone to undertake this work, but did not himself have time to do it. He was looking for someone with research expertise, and for whom he could trust to conduct the project independently. Prof. Peet felt that I was well placed to conduct the study, and wanted to establish whether I was interested. As we had a nurse prescriber in our team, this had been another impetus for the interest as I was close to sources of information that could be included in the project.

1.2 The decision to express interest

There was an automatic feeling when I spoke with Prof. Peet that he was very keen for me to do this, and as result there was some element of feeling that I should do it as Prof. Grant is a lead researcher in the trust and it might prove a good opportunity. I realised that there were however many considerations to make and that having insufficient abilities, resources or time to complete the work would only prove counterproductive in the long run. Hence I first requested that I was given a key outline of what the clients perceived my involvement to be and the projected time frame for this. I had thought that

this alone would enable me to make a decision early on, however I soon realised that without a clear understanding of the project, discussion of the aims, consideration of the methods and a realistic calculation of the timeframe, I could not make this decision so soon. Hence I sought to meet and discuss these issues with the clients, who would act as mediators and sources of support within my workplace, as Prof. Grant worked elsewhere in the Trust.

1.3 Establishing clear aims and objectives

The first meeting enabled me to establish what the clear needs were. Prof. Grant explained that they wanted to conduct an exploratory study using qualitative methods to understand the experiences of nurses who were nurse prescribing, those who worked with them, and what the experience was for those receiving their medication from a nurse - the service users themselves. It was clear from the first meeting that Prof. Grant was yet to consider how this would actually be done in practical terms and the exact methodologies and practicalities of the task. I found myself asking many questions such as his preferred methods, participant numbers, the clinical implications of the research, what it would be used for, what they wanted to know and whether there were any time constraints. Overall this meeting was highly productive and generated a lot of information.

1.4 Understanding how they envisaged my involvement

Following an in-depth meeting it was agreed that they wanted my involvement as a consultant, to include managing the project and therefore making most of the decisions. This was because the clients felt my research expertise meant that I was more able to design realistic parameters for the project. Hence the clients weren't simply providing

clear and detailed study parameters that I would conduct, but wanted me to take the concept and design the entire study myself with advice from themselves as necessary.

They felt that due to my background as a qualitative researcher who had published similar studies, that I was in a good position to manage this aim. It was therefore clear that the clients wanted me to take on an 'expert consultant' role. This would have a number of benefits in that I would be given autonomy and freedom and it was certainly a confidence boost; however conversely I was concerned that this model of working was due to the fact that the clients had limited time to oversee the project in depth and therefore this could prove to be problematic. My immediate concerns included whether there would be enough support and contact to facilitate me to conduct the study effectively. I felt that without regular supervision I ran the risk of 'missing the point', and not meeting the client's needs and expectations. Furthermore I had concerns that the clients were not sure themselves about what the objectives of the study were, and therefore I might fail to meet their needs or expectations. I chose to discuss this with the clients over the telephone.

1.5 Considering what involvement I felt was realistic

Having considered these issues I wanted to be clear with the clients that although I appreciated his confidence in me and did feel competent to conduct the work, I would however benefit from regular supervision to ensure that I was on target with his requirements, to troubleshoot and also to consider any adaptations that might be needed. This discussion took place over the telephone, which I felt was more personable than email, however in hindsight face-to-face meetings, especially early in the consultancy would have provided a more effective form of communication. However as the clients

were rarely available and worked at a different location in the city, this was not an option. These points were met with understanding and support and it was agreed that we would meet every month to discuss issues at regular intervals and that I could email and telephone the clients at anytime should I wish to. I stated that I would like to consider some ideas for the project and a timeframe that I could present to the clients to decide whether this met his aims. If it did, then I would draw up the contract and proposal for the consultancy.

I felt much more confident in my role as a consultant due to the fact that I felt able to be open and honest with my concerns. I recognise that this was in part due to the friendly nature of the clients and also their perceived confidence in me which led me to feel that I wasn't attempting to impress and could be open and display a greater deal of vulnerability. However, I do wonder however whether I would have felt so comfortable if the clients had presented in a different light, and I felt I needed to prove myself in some sense. Hence I realised the issue of power exchanges in the client-consultant relationship. For example some clients may perceive the consultant as highly able and wish to persuade them to be involved. In other cases it could be the other way around, whereby the consultant is very keen to get the work and if the clients knew little about them, there may be a sense of needing to prove oneself. In this case I experienced the former, however recognised the need to be as open and honest in communication as possible.

2. Considerations in the preparation of the proposal

One of the hardest aspects of the consultancy was to be clear myself about exactly what was required of me, to enable me to decide whether I had the skills and time to complete

the task and also to decide whether or not I would be able to find a balance between what the clients required and expected, and what I felt was most appropriate based on my expertise and experience. This process required a great deal of communication, but eventually I had a clear idea of needs, timing and what I could provide. I also regularly checked that this perspective met that of the clients by referring and reflecting these notions back.

2.1 Timing

In terms of timing there was some flexibility about how long the work could take, but from the perspective of hypothetically establishing a consultancy fee, I still needed to consider actual hours spent working on the project. In total this amounted to approximately 26 days. However the nature of the role automatically means that whole days cannot realistically be spent on the work, and in one block, hence this estimation of actual time spent was spread over a period of 8 months.

2.2 Key personnel

Although I spent the majority of the project working alone, the clients acted as sources of information and support. Prof. Peet was based in the same building as myself and therefore available to discuss issues at short notice regarding the project, and Prof. Grant was available mainly via email to discuss issues related to the methodology of the project. It was agreed that a progress report would be repeated at three-monthly intervals via email and that face-to-face meetings would take place every two months (a total of two meetings) and then on my request should I need it.

2.3 Understanding roles

As previously discussed, establishing my exact role was not an easy task, however this was eventually clearly agreed and set out in the meetings and contract. My role consisted of project management for the study, and the collector of data (interviewer). My exact role therefore included writing a proposal, submitting an application to an ethics committee for approval to conduct the study, designing the interview schedule and writing invitation and GP letters, information sheets and consent forms. The role also involved interviewing service users, psychiatrists, a nurse prescriber and other nurses, alongside running a one-off focus group. As I had experience of interviewing individuals about sensitive subjects (childhood cancer) and conducting focus groups; it was felt that I was ideally placed to do this. The role also included writing up the results for publication.

2.4 Theoretical frameworks

The role I naturally took on in the consultancy project was modelled on the 'Expert Model' of consultancy. This model most closely fits the role because the clients knew what they wanted, and were clear on the basic process within which to achieve this, however they left the majority of the work and decisions in my hands as they perceived me as having expertise and experience in the processes involved, that they did not have. The only issue with this model that hasn't been previously discussed centres around the requirement of participation from other members of staff. As the clients were not usually present to help recruit and motivate involvement, this was left to myself and therefore the work was seen by staff as an additional and perhaps somewhat unnecessary job that needed to be done. Had the clients been present and active in the process, they may have managed to elicit motivation and help to illustrate that the

project would inform clinical practice and the development of services. Although I tried to make this point on several occasions, I suspect that the members of staff I was hoping to interview viewed me as the researcher who was perhaps adding to their workload. In hindsight it would have been helpful to have discussed this further with the clients and consider their more active involvement in recruitment and participation. However the nature of the role meant that some interviews were cancelled simply because there were clinically important reasons for the health professional's involvement in care elsewhere.

To try to overcome this issue further I also utilised aspects of the 'Process or Helper' model, which utilises a number of core components including facilitating communication and playing a more equal team role. This often included the concept of collaborating with the clients and staff on an equal footing where possible to encourage feelings of group working, autonomy and to help staff feel at ease with the study. Taking on a more authoritarian role would have been detrimental to this process.

2.5 Opportunities for and against the planned consultancy

There were a number of positive and negative aspects within the consultancy, for example aspects of the proposal were problematic and others were perhaps more beneficial than usually found in a consultancy of this type. The benefits included the fact that I knew the key personnel that I was working with and therefore felt less pressure to prove myself, and equally I felt more able to ask questions when necessary without the fear of appearing incompetent. The more negative aspects of the consultancy included the fact that I recognised that increased autonomy, sometimes led to increased feelings of stress, responsibility and the concern that I would need to make many decisions myself, deciding when it was appropriate to seek direction and advice.

The other negative aspect refers to the work itself, in that I was required to interview service users regarding their views of nurse prescribing. This was deemed important because the NHS values research looking at the service user perspective and little is known about their views regarding this new competency. Although I too knew little regarding the subject matter to begin with, as I came to do some basic preliminary research for the proposal it became apparent that service users may not have a great deal to say regarding the topic for a number of reasons. Firstly they have nothing to compare this care with, secondly they may simply say that they liked or disliked it, and any variation may be due to their relationship with the nurse prescriber rather than views on the subject in general. Thirdly I felt that the subject was very narrow and therefore their may be very little that the service user could say, an issue in trying to design an interview schedule and think of ideas for prompts. In the past I was familiar with designing and using interview schedules regarding wider subjects rather than one specific area alone.

2.6 Contingency plans

Although I was not getting paid for this consultancy I recognised the difficulty of trying to estimate how many days I should charge for. I also recognised the fact that you cannot estimate the time taken to receive ethical approval very easily and so I needed to add time on rather than keep it too conservative. It was agreed that any unexpected hurdles would be discussed in a meeting and I felt very able to voice these, in the knowledge that action could be taken as necessary. In the end the project did take longer than anticipated due to problems establishing ethical approval and also the fact that it was difficult to arrange a time when all the health professionals in the team were available for the focus group, and also times when the psychiatrists weren't needed

elsewhere due to clinical reasons. Therefore in the future I would definitely look to include cancellations for meetings and collecting data as a potential reason for a delay in completing the project.

2.7 Effective methods of communication

The consultancy was conducted using a variety of methods of communication. For informal discussions and queries I was able to talk to one of the consultants as he is based in the same building. Discussion with the other client was made by means of email and an internal postal system to relay information regarding research and development, ethics and the qualitative analysis of interviews which was to be second-coded by one of the clients. Regular meetings were also set up to discuss progress, although these were more frequent at the beginning as decisions and the design of the study required it.

3. Reflections on the development of the consultancy contract

3.1 The difficulty of estimating time

This was very problematic as I was proven to underestimate the length of time needed to complete the project. I had estimated a completion in October 2007, however the consultancy actually ended in January 2008. This was primarily due to cancelled interviews and the difficulty of finding a suitable time when all health professionals were available for the focus group

3.2 The issue of delegation

This particular consultancy required little delegation due to the fact that most of the work was to be completed by myself. The only requirement that I had referred to the

need for more information on the subject of nurse prescribing and also for one of the clients who was familiar with qualitative methods to second-rate a subset of the interviews for the purposes of inter-rater reliability. This was relatively easily established as one of the clients was keen to be involved in providing this.

3.3 Seeking information

As I had an established relaxed working relationship with the clients I felt very comfortable voicing any concerns and requesting further information when I required advice or clarity.

3.4 Seeking support

On one occasion I felt that my work load was so great that I could not give any time to the consultancy. I chose to explain that my work load was now unexpectedly great due to the departure of a colleague, however I also provided the clients with a plan of how I intended to do the work and in what timeframe. He seemed supportive and satisfied with this. I also chose to discuss this with my manager. She was very understanding and supportive and stated that she felt the situation had occurred because I was working on many different pieces of work with different individuals, and that no individual realised how much work I had elsewhere. We were therefore able to discuss my priorities, sought help elsewhere and delayed the less important work for the New Year. We also discussed when I would have some annual leave and the fact that I was entitled and should take time in lieu for evenings that I had worked or when I had been travelling on work-related business.

4. Description, Evaluation and reflection

4.1 Establishing and setting up the consultancy

This project was offered to me and therefore I did very little to promote myself and apply for the role. Consequently I hope to get the opportunity in the future to advertise and illustrate my skills in such a way that I can secure interesting work. As I already had a working relationship with one of the clients, this meant that I found the process of setting up the consultancy relatively straightforward as I could communicate regularly with this individual and establish the parameters. However, I recognise that in other situations this would be less viable, and I would need to consider how I extracted guidance and information in a set time frame and also consider how I dealt with the balance of trying to appear competent and able, for the purposes of being offered the role, but also needing to be approachable, down-to earth and open about my concerns and worries. In particular I would need to feel able to ask questions, perhaps as many as I felt necessary to make informed choices and decisions, without concerns that I would appear to be lacking in initiative, confidence and ability.

4.2 Maintaining the consultancy project and meeting targets

The project took a lot longer than anticipated. In this occasion there were no strict deadlines for the project, however it did clearly illustrate to me that in the future I need to be more careful about considering the potential reasons for why the project might take longer. In this case the reasons for the delay included the fact that I had to wait a month to attend an ethics committee and that the changes they required following this meeting took some time to do and to receive feedback from. In this case I needed to pilot the measures and this added an unexpected reason for delay. Hence had there been a strict deadline and financial implications the consultancy would not have met targets

and this could have been very problematic in a different setting. Overall the study was successful, interesting and detailed data were collected, and the clients were pleased with the progress and outcomes. I felt satisfied that I had provided a good service and this was in turn a boost to my confidence.

4.3 Closing the contract

The contract was closed following a final meeting with the clients that included providing feedback, the final report and paper for publication, and also the opportunity for feedback from them, and a chance to discuss how the experience had gone. I found this end to the project was timely and helpful, the feedback to be very positive, and overall they stated that they had felt able and confident to leave me to complete the project independently, whilst still feeling assured that I would seek help and advice where necessary. The clients stated that they would have perhaps liked more regular updates about my progress via email, but as they had not requested this, this was simply an idea for future work. I have however decided that I would like to do this in the future as a matter of course as I feel it is a sign of professionalism and courtesy.

Service user's views about nurse prescribing: Consultancy to provide both research expertise and health psychology knowledge

Contracting Client: Prof. Gordon Grant, Sheffield Hallam University & Prof. Malcolm Peet, Doncaster & South Humber NHS Trust.

Consultant: Emily Earle

BACKGROUND

Until recent years, prescribing was the sole responsibility of the doctor, and in mental health specifically, the medical specialism of psychiatry. However, it is now recognised that with appropriate training, nurses are also in a competent position to provide this level of care. Little is known about how this is received by the service user themselves, in terms of both the potential for perceived benefits and also concerns. Illness beliefs, communication, control, trust and expectations are all critical aspects of care that are important to understand in terms of tailoring services and how they are offered. Moreover consideration of service user views is in line with the legal responsibility to involve patients in research and development (Health & Social Care Act, 2001).

The client sought the expertise of the consultant to advise on a number of levels. Firstly in terms of their health psychology knowledge with regards the beliefs and cognitions of the service user, what these might be, and how this information could be best gathered with particular lines of questioning. The consultant would also be required to provide research knowledge including methodology, ethics, designing information sheets and interview schedules appropriate to the service user; alongside advising about the most effective form of qualitative analysis to use, bearing in mind the objectives of the study.

Alongside the provision of theoretical and methodological knowledge, the client has also sought to draw on the practical research experience of the consultant, to conduct the interviews and analyse the qualitative data.

OBJECTIVES

- To understanding the service user experience of receiving their prescriptions and medical care from a nurse, with the focus of using this to develop services that better meet their needs.

Tasks

- Consult and collaborate with research investigators to decide on final schedules.
- EE to write research proposal, obtain ethics, write info sheets/ consent forms, conduct interviews.
- EE to consult on appropriate methodology and qualitative analysis type. EE to carry out said analysis and consult/train on how this is achieved to obtain inter-rater reliability from fellow collaborator.

CONSULTANT REQUIREMENTS

- Clear agreed objectives and timescale.
- Agreed sources of support and access to this.
- Nurse prescriber to provide necessary background information regarding the area, including all written information that they have available.
- Information regarding the background to nurse prescribing
- A member of the collaborative team to be involved in the analysis to provide inter-rater reliability.
- Access to the multi-disciplinary team within a meeting to discuss the items for the schedule, for the purposes of inclusivity across professional backgrounds.

TIMEFRAME

Nov/ Dec – Meetings to discuss needs and how these might be achieved. Draft proposal developed by EE.

Jan/ Feb – Study parameters agreed. Contract signed. Information sheets and consent form finalised. Interview schedule developed with multidisciplinary team and finalised..

Feb - Ethics application.

Spring Commence Interviews (ongoing, time dependent on clients entering service)

July/Aug – Begin analysis

Sept/Oct – Dissemination of findings

CODE OF CONDUCT

The trainee health psychologist (EE) will carry out the service in accordance with the British Psychological Society.

INTELLECTUAL PROPERTY

The health psychologist (Emmie Earle) shall be named on any publications arising from her work. This has been discussed and agreed.

CONFIDENTIALITY

During the course of the services the trainee health psychologist (EE) may have access to, gain knowledge of or be entrusted with information of a confidential nature. In signing this contract, the principal investigator agrees, unless expressly authorized by a senior authorized person to do so, will not disclose to any unauthorised person or organization any such confidential information. The trainee health psychologist (EE) agrees to store and process information in accordance with the Data Protection Act 1998.

COST

Daily rate at a salary of £24,000p.a (based on MSc and research experience) = $24000/260$
(working days in a year) = £92.30 per day.

1 day per fortnight for 5 months, 1 day per week for 4 months = 10 days + 16 days = 26 days @
£92.30 per day = £2399.99. Contingency costs at 15% = additional £359.99

Other expenses:

- Stationery
- Paper/printing cartridges
- Mileage to and from client's home
- Use of telephone to call clients and liaise regarding research

True total cost for consultancy = £2759.99.

Amount payable - £0

PAYMENT

Not applicable. Consultancy project is part of agreed post within Doncaster and South Humber NHS Trust.

Signature.....DATE.....

Consultant name

SignatureDATE.....

Client name

Minutes of Meeting: 6/11/06

Present: MP, EE, JT, GG

Apologies: RA

1. Client needs

1.1 Justification for the study

Prof. Peet discussed the reason for why he wanted to conduct the study in that little was known about the service user, nurse and team perspective on nurse prescribing, in particular within mental health services. The client was looking to involve the consultant based on his research and psychological knowledge and experience so that they would principally co-ordinate the study under his direction.

1.2 Consultant's involvement

It was agreed that the consultant would take the lead in organising the study based on the agreed objectives. Prof. Peet discussed his wish to conduct interviews with service users, utilising the consultant's help in the following ways:

- Developing the schedules using research methods and health psychology theory with regards illness perceptions and medication.
- Ethical application for the study
- Conducting and co-ordinating the interviews

2. Consultant's needs

EE discussed her needs in terms of time, finance, support, information, access to research, the regularity of meetings (monthly) and most importantly the extent to which her skills and experiences matched the expectations of the client. Based on her previous research experience it was agreed that she would be involved in directing and carrying out all aspects of the study, with regular supervision, utilising the client and collaborators for their professional expertise and advice when necessary.

3. Plan of action

EE to begin to consider a draft proposal and contract for her services that could be fed back at the next meeting to ascertain whether both met the expectations of the client.

Minutes of Consultancy meeting for the Nurse Prescribing study – 19/12/07

Present

Prof. Malcolm Peet
Ms. Jayne Taylor
Dr Rudwan Abdul-Al
Ms. Emily Earle (Consultant)

Apologies

None

Review of the consultancy contract

EE discussed the draft contract that she has drawn up, with the aim of establishing consensus with regards the following issues: Client's needs and involvement, consultant needs and involvement, timescales, financial arrangements and contingency plans. The contract could then be adapted to reflect this agreement and would be signed by all present at the next scheduled meeting.

1. Review of the client's needs

Based on further discussion of the study, some changes were discussed and evaluated.

1.1 Medical viewpoint

It was agreed that alongside the nurse and team collective viewpoint, that it would be interesting to include a medical viewpoint as concerns and issues regarding nurse prescribing are very pertinent to this field as they often required to supervise the nurses.

1.2 New study collaborator

Discussed involvement of Dr Abdul-Al who interested in becoming involved in research and providing an alternative medical viewpoint for the study. It was agreed that his involvement would be valuable and therefore the consultant took time to discuss the planned consultancy, agree his involvement and ensure effective methods of communication.

1.3 Inclusion of GP's viewpoint.

It was suggested that the study might include the viewpoint of GP's to whom clients are referred back to after having finished their treatment in Early Intervention (nurse prescribing). However it was agreed that this would be adding too much to the study and that getting GP participation would be problematic due to time restraints.

2. Review of Consultant's needs.

EE requested that the client and collaborators provided their expert opinions on the documents she was beginning to develop (see below). She also requested a meeting with Prof. Peet to discuss current issues and developments with regards NP from a medical viewpoint that would inform the development of a semi-structured interview. This was agreed to take place on 21st January 2007 EE also requested further information about protocols and guidelines from Prof. Peet and Ms. Taylor.

3. Plan of action

EE to develop a draft research proposal and email to all for their comments and feedback.

EE to develop draft versions of the following:

- Client consent form, information sheet and semi-structured interview schedule.
- Semi-structured nurse prescriber interview schedule
- Focus group themes schedule

It was agreed that feedback would be provided by January 8th 2007. At this stage EE would make the necessary amendments and resend the documents to the client and collaborators for finalising. EE would then PDF the documents and commence the ethical application for the study.

Next Meeting scheduled for 21st January 2007

N.B. The above meeting was cancelled. It was agreed that due to the impractical nature of meeting in person, liaison regarding the study would take place in the future via email and telephone.

Nurse Prescriber Consultancy Progress report

The remainder of all correspondence took place via email and telephone rather than formal meetings as such. However a progress report was submitted to the trust as follows:

Doncaster and South Humber Healthcare NHS Trust

NHS Annual R&D Report, 2006-2007

Section 2A Overview and examples of the impact of your R&D activity on health and social care.

Nurse prescribing

Last year we reported the successful completion of an evaluation of nurse prescribing in a memory clinic. Two papers (one published in Mental Health Nursing in 2007, the other in press with Dementia: the international journal of research and practice) have been produced based on this study. The findings have been used to build a case to develop and expand the service. Interest generated from this initiative has led to the development of nurse prescribing within the Trust. The early intervention in psychosis service has also picked this up and has developed a linked evaluation study that will consolidate the knowledge generated from the memory clinic study which had positive outcomes rooted in the experiences of service users, family carers and staff.

The nurse prescribing study is now reaching completion and the results are soon to be submitted for publication. 7 service users receiving their medication from a nurse, three psychiatrists and two nurse prescribers (one practising) were interviewed, along with a focus group of health professionals. This focused on experiences, barriers and attitudes to nurse prescribing. The preliminary findings suggest positive attitudes from service users but a lack of knowledge amongst health professionals regarding the competency,

confusion regarding the role of the supervisor and a lack of structure and procedures at the point of setting up a supervisory relationship and practice of the competency.

Research Articles produced in consultancy

Nurse Prescribing In Specialist Mental Health (Part 1): The Views And Experiences Of Practising and Non-Practising Nurse Prescribers and Service Users.

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Abstract

Non-medical prescribing is a relatively new competency that appears to benefit both service users and health professionals alike. However, little is known about its use in specialist multidisciplinary mental health settings. This study aimed to look at these views and consider how the role can be developed further in light of this. Six service users and 2 nurses trained in nurse prescribing were individually interviewed. One trained nurse had been prescribing for the last three years, the other was trained but non-practising. Service users reported that nurse prescribing was more convenient and less anxiety provoking, an issue of particular importance for optimising mental health services. The practising nurse prescriber described her experiences and credited a good structure of supervision and support from the team. Reasons why trained nurse prescribers may not be practising were discussed, with suggestions for future developments and guidance. This competence appears to work well in a specialist mental health setting when conducted in a supported and structured way. Offering choice was deemed important, however for some service users, information about why medication may be beneficial was highlighted as an unmet need in the prescribing process.

Key words: Nurse prescribing, specialist mental health

Accessible Summary

- Prescribing medication used to be the role of the doctor, but in recent years nurses have begun to prescribe following training and supervision.
- In this study we conducted interviews to look at the views of a practising and non-practising prescriber to understand their experiences of prescribing in specialist mental health teams; and also the views of service users receiving this care in the community.
- Service users reported that receiving their medication from a nurse was more convenient and less stressful, an issue of particular importance for helping their mental health. The practising nurse prescriber described her experiences and felt she had a good structure of supervision and support from the team. Reasons why trained nurse prescribers may not be practising were discussed, with suggestions for future developments and guidance.
- Nurse prescribing appears to work well in a specialist mental health setting when carried out in a supported and structured way. Offering choice was important, however for some service users information about why medication may be helpful was still needed.

Introduction

Until recently prescribing medication was the exclusive role of the Doctor. However, following in-depth training, and under particular circumstances, the nursing profession has been recognised as highly capable of providing this component of care. Nevertheless there are discrepancies in attitudes towards nurse prescribing, which appears to have been met with both enthusiasm and a degree of scepticism.

Perceived benefits of nurse prescribing

According to the guidelines: 'Improving Patients Access to Medicines' (Department of Health, 2006) the aims of nurse prescribing are to i) improve patient care without compromising safety, ii) improve access to medicines, iii) increase patient choice, iv) improve flexibility within the team and v) utilise existing skills amongst nurses. Nurses also play an important role in monitoring side-effects, providing education about medications and maintaining a therapeutic relationship with service users (Nolan et al., 2004). This in turn has led to improved engagement and adherence to medication (McCann & Clark, 2008).

Studies assessing the views of service users that receive this care appear to show a high level of satisfaction, which can surpass their reported satisfaction with doctors (Horrocks, Anderson & Salisbury, 2002). Furthermore some research suggests that nurse prescribers use a more evidence-based approach based on guidelines and the research literature, whereas doctors are more guided by clinical experience and utilise an individualised approach (Griffiths, 2004; Jones et al., 2007).

Perceived concerns regarding nurse prescribing

A number of concerns have been reported, including queries regarding the effectiveness

of training and supervision. McGavock (2007) argued that there will be an over-prescription of certain drugs that may lead to prescription-related illnesses or fatal interactions. Concerns from nurses and nurse prescribers themselves suggest fears of litigation, insufficient training and education, inter-professional conflict, increased workload and a lack of supervision (Nolan et al., 2001).

Need for research

There is a general lack of knowledge regarding the service user viewpoint in mental health (Nolan et al., 2004), although studies of nurse prescribing in general suggest that it has been positively received (Aldridge, 2002). Conversely, in a series of focus groups with mental health service users, Harrison (2003) found that there were concerns regarding the need for nurses to be adequately educated and supported in this function, and that their role as a nurse was not affected and undermined in any way.

This study aimed to provide an in-depth descriptive analysis of the experience from the perspective of both a practising and non-practising nurse prescriber, and the views of service users on receipt of this care. In particular it considers the implementation of this competency in an Early Intervention Team for Young People with Psychosis, a specialist mental health team, as there is limited research observing the reported experience of nurse prescribing in this context to date.

Methods

Sample

Service users who were being seen by a nurse prescriber in Rotherham Early Intervention Team for Young People with Psychosis were invited to take part. Due to the nature of the service this included young people between the ages of 16 and 35 years of age receiving treatment for a first episode of psychosis. Two Community Psychiatric Nurses who had received training in nurse prescribing agreed to take part. This included one who was practising from the Early Intervention Team, and a nurse who had completed the training but not yet begun to practice from another specialist mental health team (Assertive Outreach). These individuals were both interviewed regarding their experiences and viewpoints. The project was approved by the South Yorkshire Research Ethics Committee. Participants were excluded if they were considered unable to give informed consent, had learning disabilities or were too ill to take part.

Procedure

Potential service users who had been seen by the nurse prescriber were approached by the researcher and invited to take part in the study and be interviewed in their home. Nurses trained in nurse prescribing were approached to take part in the interviews. Participants were reminded that they did not have to take part, any information would remain anonymous, they could withdraw at any time and in the case of the service users, that this would not affect their care in any way. All participants were given an information sheet which outlined the purpose and procedures involved, and a consent form to sign.

Interview

Service users were interviewed in their own home at a time suitable to them. Nurses were interviewed in the workplace. A separate semi-structured interview was used for each sub-group. The interview lasted approximately one hour, and consisted of open-ended questions regarding their experiences and views of nurse prescribing. Prompts were used where necessary to gather more information or to guide the conversation back to the area of interest. Interviews were audio-taped.

Coding of Interviews

The audio-tapes were transcribed and analysed using Thematic Analysis to extract key themes. The author has experience of using this form of qualitative analysis with interview data (Earle et al., 2007).

Inter-rater reliability

Transcripts were coded independently by a second researcher to compare the results and ensure inter-rater reliability was achieved. Discrepancies were resolved by discussion.

Results

1. Service User Interviews

Overall, service users appeared to be very satisfied with their care and with receiving their medication from a nurse. However some found it difficult to recall their experiences and what information was presented to them, although this may have been due to the fact that they were then in the acute stages of their illness.

Convenience

Service users felt that nurse prescribers could be easily accessed, visits were more frequent, they knew what to expect and didn't have to repeat themselves: *'rather than me having to make an appointment, and [re] explain everything to a doctor'*.

The therapeutic relationship

Many service users felt able to establish a trusting and open relationship with their nurse prescriber, something that would have *been less readily achieved with a doctor*: *'They seemed more involved with the patient'*. They also expressed confidence in their abilities: *'she would have gone back to reference.... if she was not sure'*.

Comparisons with standard care

All of the service users were happy to receive their prescriptions from a nurse, and some preferred this to standard models of care. However, another service user explained that his issue was more complex, and required the help of a doctor: *'If you've got thyroid problems it's never right.... That's where a doctor might be better than a nurse'*. Interestingly, some service users seemed unaware that it was novel to have their medication prescribed by a nurse, and were therefore indifferent to the process.

Reduced stress

One service user explained that seeing a nurse was far less stressful as he felt less intimidated: *'at the doctor's you're really pressured with perfect answering'*.

Information given

Being given information in both written and verbal form, in the format of a grid to clearly compare the side-effects and benefits of each drug was perceived as helpful,

when things might be easily forgotten.

Choice and autonomy

Having the opportunity to learn about the medication and side effects, and then make a decision was seen as a distinct advantage: *'she always asks me what I think my needs are at the moment'; 'I was a bit nervous about taking any sort of medication – and being given the choice of take this or not at all was a comfort'*. One young female described how having a nurse prescriber helped her to feel more comfortable and able to ask questions openly: *'I wouldn't feel confident asking for something, I would feel cheeky. She made me feel that I could'*.

Concerns

Many service users did not feel that there were any disadvantages or concerns regarding nurse prescribing. However they did recognise that some people may prefer to see a doctor, and the assumption that doctors have a greater knowledge may exist.

Suggested Improvements

Two service users felt they hadn't had enough information about what to expect, and there was also a need to understand how they had become ill in the first place in accepting the reasons and need for taking medication: *'I wanted to know about how I could have left it so long and then suddenly woke up one day and thought about suicide. There was no explanation'*.

2. Nurse Prescriber Interviews

Two nurses were interviewed. Both had completed the nurse prescribing training in the

last four years, however only one was now practising. The practising nurse prescriber had been prescribing for over two years, with an average of 6 clients at a time.

Training

The nurse prescriber described her experiences. She had attended 5 initial days of study followed by 1 day a week for 6 months. The training included clinical practice and supervision with the use of reflective diaries and 2 OSCE exams (Objective Structured Clinical Examination). The topic areas covered included drugs, indications, contraindications, side-effects, dosages and how to write a prescription. Ongoing training was provided by the consultant and from the Trust in the form of set homework presented as a CD, covering topics such as pharmacokinetics and pharmacodynamics with print off review questions and 70 to 80 hours of study via a flexible course.

Although the homework is not formally marked, feedback is provided in a group session, with nurse prescribing forums every two months. The nurse prescriber explained that she tried to keep up with the literature on a monthly basis, and that this included reading books recommended by her supervisor, the British National Formulary (BNF), and journals such as 'The Nursing Times' and 'Nurse Prescriber'. In particular she recognised that she still had a great deal to learn and that this would continue: *'This is just the first step, I've got so much more to learn'*.

The process of nurse prescribing

The nurse prescriber outlined the process of prescribing that she had developed with her supervisor. Following a diagnosis by the independent prescriber, an agreement is made that she will prescribe for a particular client. A Clinical Management Plan is then

formulated to include information about what will be prescribed, unwanted side-effects, what to do if the nurse prescriber couldn't continue the prescribing, allergies, physical conditions and other information regarding the client. At this stage the client agrees to receiving their prescriptions from a nurse. This is preceded by a risk assessment and following of an Integrated Care Pathway (ICP) for anti-psychotics, including the collection of bloods and baseline observations such as blood pressure, body mass index (BMI), prolactin and glucose levels; and if a cardiac history is present, electrocardiograms (ECG's) are arranged. Phlebotomy training is also provided to the nurse. An Integrated Care Pathway (I.C.P.) is a multiprofessional plan of care that details each step in the management of a specific condition or treatment (Wakefield & Peet, 2003). The pathway forms the clinical documentation in which each step is signed off by the relevant professional. Deviations, termed variances, from the plan are permitted if clinically appropriate, and are documented. For example, we have described the use of an I.C.P. to deliver a nurse-led Clozapine Clinic (Wakefield et al, 2006). The client is then provided with information about the different anti-psychotics and the possible side-effects, so that they can make an informed choice: *'They look through all the side-effect profiles and can then make an informed choice about what they would like.. when they feel ready I would then issue a prescription'*.

Information is disseminated to the GP, a symptomology assessment conducted and the client is seen at least every 2 weeks, and monthly for a supervision review with the Psychiatrist. Although the nurse prescriber initially worked with a subset of her own clients, she had begun prescribing for the clients of other care coordinators in the team. This led to more of a collaboration as often the various observations could be carried out by the care coordinator..

Concerns

The experienced nurse prescriber described the fears she had about prescribing: *'it's just the accountability and fear of what if I write it wrong, what if the patient takes the wrong medication'*. Maintaining her previous nursing role was also discussed, however in this case the nurse prescriber was supported to reduce her caseload so that she did not reduce the quality of care offered: *'I don't want to fall short in one area to excel in another'*. The nurse recognised that in practical terms things would not always go to plan in prescribing, but experience was helping her to adapt when necessary: *'The difficulty has been sometimes when people don't think they're unwell so they obviously don't want medication... it's important not to overchallenge at times....you can give them a prescription but they won't take it'*.

A lack of pay incentive was also recognised as an issue that may slow the growth of the competency, however this was accepted by the practising nurse prescriber: *'me personally I'm absolutely fine with not getting any pay increase because I feel I'm under supervision of the independent prescriber, but I think as an independent prescriber you're on your own and that's a lot of responsibility'*.

Benefits

The perceived benefits of prescribing included improved concordance and compliance, a trusting and more open relationship with clients and the ability to monitor side-effects more closely. The capacity to consider individual needs was enhanced by more frequent visits to service users, compared to the doctor. She felt that the skill had proved challenging and motivating and that she was valued by the team and her supervisor.

Although her initial fears had been significant, the nurse prescriber explained that she now felt far more confident, largely due to the support from her supervisor . Furthermore, national guidance had proven helpful: *'you've also got the backup of NICE guidelines to follow, so that's really useful, and there's also the antipsychotic ICP which is like a little checklist so you know if what you are doing is right'*.

The future of nurse prescribing

It was suggested that potential nurse prescribers needed to be patient-focused and set up a way of working in the team that was systematic and collaborative. Including protocols and tools in the trust would help to integrate nurse prescribing practice. Furthermore, NHS Trusts could foster better links with supervisors so they did not feel they were simply expected to supervise. Educating staff about the role of nurse prescribing and how it can be incorporated was also deemed important: *'look at the workplace, see how it would benefit the workplace and make sure the support is in place for when you're prescribing'*.

The nurse prescriber felt that a buddy system would also be helpful and that disseminating research and clinical practice at a specific conference would bring ideas together and encourage the development of best practice. Likewise specialised additional training for mental health was suggested. Interestingly, she also felt that potential supervisors of nurse prescribing should have more say in who is suitable to prescribe. This last point was criticised however by the non practising nurse prescriber who felt that choosing people based on a subjective evaluation of appropriateness was not wise: *'if you just want length of service or.. qualifications then most people get through.. if you go via "I like this person and subjectively happy with what they've*

done.. you can't go down that route because it has to be clear- it has to be equitable'.

The argument against

The interview with the non-practicing nurse prescriber, mainly focused on their reasons for not yet putting this skill into practice. He recognised that there was support for him to prescribe, felt that the skill was beneficial to clients, however there remained several reasons why it had not yet been feasible.

Firstly he felt that there was no structure in place within which to practice, and that the development felt like a political move: *'I thought yes this is just another way of nurses taking on the doctor's role'*. Secondly he did not feel that he had time to organise clinical management plans and recruit clients. Having come from a different specialist mental health team, this may have been due to alternative ways of working: *'either the caseload of the team is reduced or extra staff employed to give you the space to actually have time to work as a nurse prescriber'*.

Thirdly he was not satisfied with the training and felt that he required more teaching in subjects such as anatomy, physiology and pharmacology. Careful thought about implementing the competency was also questioned: *'the process of registering with the Trust as a nurse prescriber was unfair, there wasn't a clear route through and the issue, as far as I am aware still goes on'*. The non practising nurse prescriber felt that the lack of additional pay and insurance cover resulted in less incentive: *'I could end up £300 or £400 a year worse off [due to purchasing private insurance] for taking on an extended role'..*

The fact that the non-practising prescriber had not prescribed for three years since the training, meant he felt it necessary to retrain or at least receive mentoring. There were also concerns that colleagues would be unclear about the parameters of the role: *'one thing with colleagues is "oh you are a nurse prescriber", so then we get "we will be able to just come to you for our depot problems"'*.

Discussion

This study suggests that there is a high level of service user satisfaction with nurse prescribing in specialist mental health settings when it is working well, which is in line with previous research (Jones et al., 2007). Service users particularly valued the convenience of being seen at home, the quality of the therapeutic relationship, the time taken to provide information about their medication, and a greater feeling of choice and autonomy. One caveat expressed by service users, and echoed in an interview with a Psychiatrist, was that more complex prescribing would still require a doctor.

The elements that led to the procedure working well in the Early Intervention in Psychosis Team included:

- 1 The perceived adequacy of the training given to the Nurse Prescriber.
- 2 The supportive and trusting relationship between the Nurse Prescriber and the supervising Independent Prescriber.
- 3 The availability of clear policies, procedures and guidelines regarding prescribing within the Trust.
- 4 The ability of the Nurse Prescriber to recognise his or her limitations and to seek

help when needed.

5 The supportive nature of the team.

A number of other issues were raised that can impair the introduction of nurse prescribing. From the perspective of the prescriber, there may be resentment about extra work and responsibility without extra pay. The need for a reduced caseload to take account of prescribing responsibilities was mentioned. The prescriber also needs to feel that the Trust is supportive of the role, and that colleagues in the team recognise the limitations of the role and agree how the competency can best be applied integratively.

These findings support and highlight some of the concerns found in recent research such as apprehensions about independent nurse prescribing (Jones, 2008); insufficient access to doctors, and the lack of structure and integration of the competency at a local level (Courtenay & Carey, 2008). Equally the issue of specific mental health training may be necessary, an issue supported by Wells et al., (2008) who identified that 98% of nurses in their study reported a need for more training in psychopharmacology.

In conclusion, this study confirms the benefits of nurse prescribing in specialist mental health for service users, however highlights some of the potential ways in which optimising its potential may be challenged. With careful planning, guidance, set lines of communication and support the competency has the potential to be successful, as illustrated in the case of the practising nurse prescriber.

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**Nurse Prescribing In Specialist Mental Health (Part 2):
The Views And Experiences Of Psychiatrists And Health
Professionals.**

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Abstract

The establishment of working relationships between nurse prescribers and other health professionals, particularly psychiatrists offering supervision, can be a rewarding one. However there remains little guidance in terms of how this can be achieved and the view points of those from different disciplines in specialist mental health teams. This study aims to look at the views and experiences of psychiatrists and other mental health professionals regarding nurse prescribing. Nine health professionals from a multidisciplinary mental health team attended a focus group; and two psychiatrists were interviewed, both with varying degrees of supervision experience. Psychiatrists reported concerns about prescribing, in terms of themselves needing better support and communication, and perhaps having an involvement in the selection process. Nonetheless the psychiatrist who had experience of supervision reported that this was highly positive. Health professionals stated that nurse prescribing enhanced team working, however most had limited knowledge about the role. Further training for teams, and the establishment of a good supervisory relationship and an agreed working structure is required to fully integrate this competency into specialist mental health services.

Key words: Nurse prescribing, specialist mental health

Accessible Summary

- Many nurses now prescribe medication under the supervision of a psychiatrist, however there remains little guidance in terms of how this can be achieved and the view points of different health professionals in specialist mental health teams.
- This study aims to look at the views and experiences of psychiatrists and other mental health professionals regarding nurse prescribing. Nine health professionals from a mixed professions mental health team attended a taped discussion group; and two psychiatrists were interviewed, both of whom had varying degrees of supervision experience.
- Psychiatrists reported concerns about prescribing, in terms of their need for better support and communication. Nonetheless the psychiatrist who had experience of supervision reported that this was highly positive. Health professionals stated that nurse prescribing improved team working, however most had limited knowledge about what nurse prescribing involved.
- Further training for teams, setting up a good supervisory relationship and an agreed working plan is required to fully establish nurse prescribing into specialist mental health services.

Introduction

Two types of medication prescribing practice exist – ‘Supplementary’ and ‘Independent’ prescribing. Supplementary prescribing, refers to a voluntary working agreement between an independent prescriber (doctor) and supplementary prescriber (nurse, health visitor or pharmacist), for the purpose of implementing an approved clinical management plan (CMP) that has been agreed by the service user. From 2004, non-medical supplementary prescribers could prescribe from almost the entire British National Formulary (BNF) (Courtenay & Griffiths, 2005), as long as it was agreed by the doctor and outlined in the CMP. Independent Prescribing refers to those who are professionally responsible for their own actions working without supervision (Department of Health, 2007). Although originally restricted to a limited number of drugs, independent prescribers can prescribe any licensed medicine and some controlled drugs provided it is within their area of competence (Courtenay, 2007).

Nurses usually practice as independent prescribers following a period of supplementary prescribing, and the ‘Committee on Safety of Medicines’ recommends that all independent nurse prescribers should be given a full year’s academic level training in both diagnostics and therapeutics (McGavock, 2007). There are currently over 10,000 nurses across England qualified to prescribe both as independent and supplementary prescribers. There remains some scepticism however regarding the safe administration of nurse independent prescribing in a range of clinical settings (Jones, 2008).

In the Government paper ‘New ways of working’, recommendations were made for medical consultants to attempt to distribute certain aspects of their workload and responsibilities down through the multidisciplinary team. The supervising doctor should

have responsibility to ensure the capability of the nurse in terms of qualifications, knowledge and suitability, and also to disseminate information regarding the service. However little is known about how, and if, this is realistically achieved. Harborne and Jones (2008) illustrate the way in which they have implemented supplementary prescribing into an acute in-patient clinic using clinical management plans. They argue the need to be very clear about where the responsibility lies and to delegate effectively so that both sides feel confident and safe in the knowledge of what is expected of them, and what they can expect from each other.

Gray et al., (2005) noted the need to consider the reasons why psychiatrists as well as nurse prescribers have lacked knowledge and confidence in taking on a supervisory role. A lack of consideration and assessment appears to exist with regards the effect of nurse prescribing on psychiatrists expected to take on this supervisory role. This is emphasised by the fact that Courtenay & Carey (2008) found that alongside difficulties implementing nurse prescribing in services and using the clinical management plan, access to doctors was a significant restriction in the practice of nurse prescribing.

Bradley & Nolan (2007) recognise that this proficiency will affect the dynamics of the multidisciplinary team, and therefore consideration should be given to how information about nurse prescribing can be provided and how the skill can facilitate collaborative working. Although supplementary prescribing is argued to be highly suited to both mental health and team working (Department of Health, 2006), there appears to be a lack of knowledge about the views of the multi-disciplinary team members themselves; and importantly, the attitudes of the nurse prescribers and the service users in receipt of this care.

This study aims to explore the views of mental health professionals regarding nurse prescribing, including their attitudes and experiences. Particular focus will be given to Psychiatrists who act as supervisors for nurse prescribers.

Methods

Sample

Psychiatrists were invited from both Rotherham Early Intervention and Assertive Outreach Teams, regardless of whether they had any experience of having worked with or supervised a nurse prescriber. Health professionals from the Rotherham Early Intervention in Psychosis Team were invited to take part in a focus group regardless of their professional discipline.

Procedure

Psychiatrists and health professionals were approached to take part in the interviews and the latter in the focus group, by means of a poster displayed in staff areas. Participants were reminded that they did not have to take part, any information would remain anonymous, they could withdraw at any time and in the case of the service users, that this would not affect their care in any way. All participants were given an information sheet which outlined the purpose and procedures involved, and a consent form to sign.

Interview

Psychiatrists were interviewed in the workplace using a semi-structured design. The interview lasted approximately one hour, and consisted of open-ended questions regarding their experiences and views of nurse prescribing. Prompts were used where necessary to gather more information or to guide the conversation back to the area of

interest. Interviews were audio-taped.

Focus Group

A single focus group was conducted with health professionals from Rotherham Early Intervention Team. Ground rules were discussed at the beginning, and the schedule was open-ended with key themes for discussion and prompts where necessary, rather than questions per se. The group lasted approximately one hour and the session was audio-taped.

Coding of Interviews & the Focus Group

The audio-tapes were transcribed and analysed using Interpretative Phenomenological Analysis (IPA). The author has experience of using this form of qualitative analysis with interview and focus group data (Earle et al., 2005; 2007).

Inter-rater reliability

Transcripts were coded independently by a second researcher to compare the results and ensure inter-rater reliability was achieved. Discrepancies were resolved by discussion.

Results

3. Psychiatrist Interviews

Three psychiatrists were interviewed. Psychiatrist 1 (P1) had worked occasionally with a nurse prescriber (Consultant grade) and Psychiatrist 2 (P2) had been working for 2

years as the supervisor of a nurse prescriber in an Early Intervention Team for Young People with Psychosis (Consultant grade). Psychiatrist 3 (P3) had no direct experience of working with a nurse prescriber (Specialist Registrar).

The stages of supervision

The experienced psychiatrist (P2) described the systematic process he had been through to establish supervision: *'I think I have got a really good knowledge of what she is doing and what she is not doing'*. It was agreed that the nurse prescriber would prescribe only a small list of drugs initially, including 3 antipsychotics, 2 antidepressants and 2 hypnotics. The Integrated Pathway (ICP) for antipsychotics was used as a guide in this process, and the stages of supervision included agreeing i) who the NP would see, ii) what she would prescribe, iii) a management plan for the client, and iv) when supervision would take place. This would usually be timetabled as necessary but P2 was able to see the nurse prescriber as often as twice a week due to the close proximity within which they worked.

Attitudes to nurse prescribing

P1 was very positive about his experiences of supervising nurse prescribers, stating that the process worked well in a specialised team that promoted collaboration and the sharing of skills in line with the new proposals set out in 'New Ways of Working for Psychiatrists'.

Training

P2 reported that the training was sufficient, provided that on-going learning took place following this. He also felt that people may attend the course to simply enhance their

Curriculum Vitae, and that this should be avoided.

Potential reasons why nurse prescribing may develop slowly

Concerns regarding a growth in nurse prescribing included extra pay, added responsibility and subsequent anxiety. Nurses may feel it should be the role of the doctor, or they may lack confidence in their supervisor to be available for supervision, informative, sympathetic and willing to take on responsibility when necessary: *'if they felt that the supervisor would run away at signs of trouble and leave them holding the baby then they're not going to prescribe'*.

It was also noted that some doctors may feel the competency infringes on their job role, or that they would subsequently be expected to do more specific and demanding jobs. The effect on psychiatry in general was discussed, with recognition of the fact that it could logically result in fewer doctors in the long-term: *'even though it is not the aim it strikes me being an inevitable consequence.. [reduce the number of doctors] because otherwise it is not clear to me what the doctors will be doing if quite a lot of the routine stuff that they have been doing is devolved to others'*.

Benefits of Nurse Prescribing

P2 argued that the benefits included the development of the nursing role and expansion of skills. Equally P1 felt that it may lead to improved job satisfaction. In terms of benefits for the client, it was suggested that nurses were often better acquainted with the client and had more time to discuss medication, provide information, choice and the monitoring of side effects. It was also suggested that nurses were more likely to follow protocols than doctors who rely more heavily on their own experience: *'Doctors take*

shortcuts, because of experience of course often, but they take short cuts. They don't always follow guidelines. Don't always properly document what they are doing.'

Concerns regarding nurse prescribing

P1 argued that some cases are more complex than others and do not fit into expected guidelines, for example if someone's presentation changed or they responded to medication in an unexpected way. Equally nurses may not be so experienced in understanding the relative importance of different symptoms, and therefore may not have the skills to adapt their prescribing approach to meet these needs if they are following set guidelines that lack flexibility: *'people's symptoms do evolve and change...things start to get more difficult and require a different level of prescribing practice'*. It was also suggested that a concrete system to embed nurse prescribing in an organisation was not yet in place, and that appraisal systems for this process and the practice of nurse prescribing were needed. For example, a nurse prescriber had wanted to add certain drugs to the list with which she could prescribe, however the process of getting this approved by the Trust had been highly difficult.

Requirements of being a nurse prescriber

There were clear views about the need for nurse prescribers to exhibit a reflective insight and humility: *'being aware when you have reached your limits and being aware when you need to ask for help'*. A degree of motivation, a proactive approach and the ability to take informed risks where necessary, was also highlighted: *'someone who's prepared to take a calculated risk... you can't be overly cautious'*.

Developments and Improvements

Concerns regarding the need for a reduced caseload to provide enough time to carry out prescribing were highlighted, especially as the individuals' confidence increased. It was suggested that a distinct organisational structure was required to take the competency forward, and that explicit guidelines should be developed to aid its appraisal.

The more experienced supervisor (P2) had received no contact from other psychiatrists regarding supervision, and the subject had not been raised at 'Medicines Management' meetings. He reported finding this surprising, and that a supervisory group within trusts for both psychiatrists, and separately for nurses, to pass on advice and peer support would be advantageous.

Supervising nurse prescribing

P2 argued that he was happy to supervise a supplementary nurse prescriber if he was confident in their abilities and appropriateness as a person and clinician, but felt that he may not have enough input in this decision: *'they expect to just be able to prescribe and you are almost expected to supervise them if they wish'; 'there is not any assessment of their capability to be a prescriber'*.

Nonetheless he stated he wouldn't feel comfortable supporting independent prescribers without supervision. Equally, P1 felt the process of diagnosis should remain the role of the doctor, and that the role of the supervisor should be supportive and advisory only, with responsibility lying solely with the prescriber. He also argued that providing supervision would be time consuming and unlikely to reduce his workload, possibly resulting in more paperwork: *'when they start the supervision process there is more*

taken out of your time.. and its associated with sort of more and more assessments’.

Recommendations for potential supervisors

Based on his experience of supervising in an Early Intervention Service, P2 emphasised that the nature of the team and service primarily accounted for why the process had been so successful. It was in part due to the character of multidisciplinary teams, but also working in close proximity to enable regular meetings, having fewer drugs that are typically prescribed as standard (e.g. antipsychotics) and having set up clear guidelines within which to do this such as the Integrated Care Pathway (ICP): *‘selecting a small number of drugs..... leaves both sides of the equation feeling a lot more comfortable about it than if you just throw the whole of the British National Formulary at a prescriber’*; *‘In a service which did not have such clear guidelines laid down it would not be as safe’.*

4. Health Professional’s Focus Group

Interestingly there was little knowledge in the team about the training, requirements, responsibilities and practicalities.

Risk

The issue of risk was discussed early in the focus group. The point was made that people cannot access the course unless they have been endorsed by their manager, therefore ensuring the careful management of risk. Responsibility was deemed to lie with the supervisor principally: *‘It’s just like delegating a job that at the end of the day it is not the nurses fault when anything goes wrong’.*

The training

Those who were aware of what the training involved felt that it was very in-depth, however required skills in the first instance to complete the course: *'it is very robust and the management system for it is very, very robust... I mean the training is really demanding actually – you wouldn't get through the training unless you had a certain level of intelligence and perhaps good understanding'*.

Concerns

The team manager explained that she was once quite against nurse prescribing, due to concerns that nurses would think they knew more and could do more than they safely could in terms of prescribing, and that supervision was key: *'you have to be careful that people don't emerge from training and think that they are pseudo medic'; 'I think support from psychiatrists is variable'; 'if I know someone is going to be competent they will emerge from the training nervous and anxious'*.

Perceived Benefits

Many benefits were discussed. For example: *'It forces good practice... there is a certain level of education that is given, there is a choice, in terms of practice, good practice that's enforced by the process'*. A junior psychiatrist felt that it would lead to a positive effect on her workload and the smooth running of the team: *'it would make it easier for the team as we may not always be available to be prescribing'; 'it is also good to have someone in the team as well that does know more about the side effects and things like that if you've not got the consultant to go and chat about things to'*.

Working with a nurse prescriber

Those working with the nurse prescriber saw direct benefits for their client: *'they [the clients] have been very open about things, whereas if they've been trying to see the doctor, they get a bit more anxious'*.

Need for collaboration

In relation to this, some health professionals argued that nurse prescribing provided an opportunity to work more closely and share competencies and ideas regarding a service user: *'it's like a shared care'*.

Practicalities

The need to consider how nurse prescribing can be implemented effectively was also raised in relation to the recognised need for reducing caseloads to allow for this.

The future of nurse prescribing

A separate position for nurse prescribers was suggested, where they are recognised and employed especially for this role. It was agreed that without some form of recompense, the growth of nurse prescribing would not be optimal.

Discussion

The overall views of health professionals working with nurse prescribers were positive, with benefits such as greater team working and improved care for service users identified. However, a lack of communication about the competency at a management and Trust level, and inadequate processes for conducting and developing the competence were identified.

One problem that was highlighted by the supervising Consultant and by the non-

practicing prescriber, was the impression that the Trust lacked a clear management structure to support the process of Nurse Prescribing. This has now been rectified, but these comments emphasise the need to have sound and clear management processes in place prior to launching the competency. Furthermore, it was apparent, even within the team with an effective Nurse Prescriber, that colleagues were uncertain about the role and responsibilities of the prescriber, suggestions that have been identified in recent studies (Courtenay, 2008; Jones et al., 2007).

Psychiatrists are sometimes perceived to be negative about non-medical prescribing, however this study raised a number of issues that were unrelated to professional role protection. Firstly, the doctors had no training or support in their supervisory role, even though this is a radical change of practice. Secondly, the need for the psychiatrist to have some choice about whether or not to supervise a particular individual prescriber was raised. One psychiatrist suggested that selection for training should be based on aptitude, not just qualifications and experience, but any such suggestion was strongly opposed by one of the prescribers. The psychiatrists and service users both emphasised the need for medical involvement with more complex cases. The more experienced psychiatrist regarded treatment protocols as a positive help, but another psychiatrist saw danger in this, because the protocol might be followed blindly when it was inappropriate to do so. Psychiatrists were much more circumspect about Independent Prescribers, because of the perceived lack of diagnostic skills in nursing staff. Overall, these responses reveal some anxieties within psychiatry. This relates to the perception that they are expected to supervise an inexperienced prescriber who might make errors that the Psychiatrist would then be responsible for.

In conclusion, there is a need to educate the team regarding the competency and ensure that effective programmes of supervision and evaluation are in place. Equally there is a need to develop systems to advise and evaluate the establishment of this competency more effectively, recognising the need to consult with Psychiatrists who play a key role in this.

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Consultancy 2: The SUN-SS

Aim: To develop a measure to consider the extent to which services consider and meet service user's needs

My second consultancy project involved me being asked if I could design a suitable way to record whether or not service users in the Early Intervention Team for Young People with Psychosis had achieved goals salient to their individual needs at the point of discharge from the service. At present outcomes focus solely on Government targets such as whether the service user has returned to work or education, and whether they have had a stay in hospital. Therefore the outcomes considered are quite focused on economics due to money saved if people go back to work and pay taxes rather than going into hospital at a cost of an estimated £500 per day (Pereira, Dawson & Sarsam, 2006). Therefore it fails to consider the needs of the service user from their perspective and what outcomes are important for them. For example, getting back to work or education may not be a priority, and in actual fact there are numerous other goals that are key for that individual but we have no idea at present if we are meeting these needs, and if so, to what extent. Consequently I was asked to consider developing a simple measure to enable us to get an idea of whether we were in fact meeting the specific needs of our service users.

The development process?

I began by discussing this in depth with my manager who had asked me if I would consider taking part. On agreement that I would be interested, I made clear notes with

regards to what she wanted to achieve and produce, her ideas about how she thought I might do this, and the timeframe. It was clear that she did not really know what she wanted and how to go about this, hence her request for my involvement.

I therefore recognised the need to meet regularly, at every step of the way, to ensure the development of a measure that was congruent with her needs and expectations. I could also generate ideas with her and obtain further information relating to the measure as necessary.

I began by researching what other outcome measures had been used in early intervention teams. It seemed that on one level we were looking to develop a quality of life (QoL) measure, however this needed to be based on the viewpoint of the service user rather than asking them to fit into pre-conceived boxes, as is usually the case with standard quality of life measures. Therefore we decided that rather than label it a QoL measure, which has defined and distinct properties, we would develop a service user led measure that was open-ended. The key feature of this measure would enable service users to state what is important to them. I designed a measure independently that included 3 parts:

1. What is important to you to achieve happiness and a good quality of life?

This included examples as some service users may not have understood what we meant by this. This simply involved a list of up to eight items.

2. To what extent are you satisfied with these areas of your life?

This included a Likert scale of very unsatisfied to very satisfied, for each area mentioned in 1.

3. What steps and goals can be set to improve and maintain this?

The final part included the list of areas and then asked the service user to think of ways in which they themselves, and then the early intervention team could work towards improving satisfaction in that area, and set goals.

The measure would be completed with a member of staff to help generate ideas that would be useful for clinical interventions, providing useful information for assessment. The measure would be completed at inception into the service, and also at discharge to assess the extent to which satisfaction had improved. Highlighting what the service user had done to achieve this would provide a therapeutic effect in terms of self esteem, control and empowerment. Equally it would enable the EI team to establish whether the work we do has meaning in terms of the needs of those we see and not just our own assumed needs.

The final measure was named the 'Service User Needs- Significance & Satisfaction Scale (SUN-SS). It was presented to the clinical director of Rotherham, Doncaster & South Humber Mental Health NHS Foundation Trust, and at the time of writing I was asked to pilot the measure with service users to ensure content and face validity prior to the measure being rolled out across the trust and many services.

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Service User Needs – Significance & Satisfaction Scale (SUN-SS) Progress Report

The aim of this short report is to provide a brief progress report regarding the development of the SUNS-SS outcome measure in Rotherham Early Intervention Team.

(i) It was agreed that the report was not a quality of life (QoL) measure per se, and therefore we have since changed the title of the measure in line with this.

(ii) To consider reliability and validity, the measure was first discussed amongst a multidisciplinary sample from the team to generate ideas and consider the face and content validity of the measure. This process established suggestions about the wording of questions and suggestions for guidance for practitioners when using it.

(iii) The next stage in the process was to pilot the measure with service users themselves. This involved both asking the various questions, and generating ideas, and also seeking feedback from the service user regarding how useful, relevant and appropriate they found the measure in terms of the concepts, actual questions and outcome information. Our support worker Charlotte Parker carried out this process with 5 service users and generated a number of key points that have since been discussed with those developing the measure (Emily Earle & Jo Painter). The main findings were:

1) For some service users this measure was both useful and enjoyable to complete.

One service user stated that it really made her think about the things that she

could do to help herself to achieve her goals. This particular service user found it helpful to think about her life and how she would like to improve it, and what this meant in practical goal setting terms.

- 2) On the other hand, some service users (such as those in a more acute phase of their illness or those with limited cognitive functioning) found it particularly difficult to think of what was important in their life, what they weren't satisfied with, and what goals they had. One service user provided quite a bizarre and delusional response to the measure, however appeared not to be taking it seriously and on prompting as to whether this was his genuine answer, provided an alternative and more appropriate answer. Those that are unable to provide goals and areas of satisfaction or unsatisfaction are still providing important information and a justification for intervention in terms of improving mood and feelings of learned helplessness about the future.
- 3) An additional short guide is required to help practitioners in using the measure. This should include example answer prompts in cases whereby service users are really struggling to provide any information. This information should itself be recorded as it is very useful to know (e.g did the service user have difficulty in generating ideas? Did they lack future aspirations?). This will be in the form of an extra box to comment on the level of engagement and may suggest a repeat assessment with the client when they are better if it is felt that any difficulties were due to their illness.
- 4) It was agreed that some service users may be satisfied with a particular area of their life but that does not mean they do not need help to maintain this level of satisfaction, as well as work on areas that they are as yet not satisfied with. Therefore a box is required in the final table should this be the case.

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The Next Stage....

The next stage is to put a draft version together that will then go through a copywrite process, checks and adaptations within the Trust. Following this brief training will be provide to the REIT and the measure will be used by the team with new clients for a certain period of time. A thematic analysis of all the themes extracted by clients will help to inform the development of a coding system so that responses on this largely qualitative measure can be quantified. We do not want the measure to be quantitative in nature at the point of data collection as this removes the very ethos of what we are trying to do- it is no longer user-led and leads to bias. However we recognise that after this important qualitative information has been used clinically to inform interventions and compare change over time and the extent to which needs were met at discharge, we will likely need some way to summarise the findings in quantitative form when considering the team as a whole and drawing conclusions. Hence a rigorous and unbiased process is needed at the end stage within which to achieve this aim.

The SUN-SS Measures

Service User Needs - Significance and Satisfaction Scale (SUN-SS)

BASELINE

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08/08/08

Information for clinicians

The aim of this measure is to ascertain areas of the service users' life that are important to them, and those that they would most like to improve. It aims to encourage the generation of ideas and active collaboration to set goals. It also aims to plan ways in which the service user can improve their satisfaction in a particular area, and how the Early Intervention Team can help them work towards this goal.

In Section 1, if the service user states that he or she is satisfied with all the aspects of their life that are most important to them, ask them to think of three aspects of their life that they are not so happy with and add these in the white spaces in the table. If you find that the service user struggles to give answers to the questions, you may wish to use open prompts to suggest areas of their life or goals for the future. Try not to give them specific ideas however as this may bias the results. If the service user states that they have no goals for the future and nothing makes them feel happy or satisfied, then this sense of hopelessness and helplessness alone is important information that should be recorded and used for further intervention. In light of these comments please complete the following section below:

Date: .

Name of Service User:

Date service user joined the team:

How difficult would you say they found it to complete?

Very Difficult Quite Difficult Quite Easy Very Easy
○ ○ ○ ○

If you have you decided to discontinue this measure because you feel the service user is not well enough at present, please indicate when you intend to redo it:

1. What things are most important in my life?

In order of importance, please can you think of at least 5 things that you think are important to you.

Important area/aspect of your life	Why does it make you feel happy? (why is it important?)	How satisfied (happy) are you with these areas of your life?			
		1. Very Unsatisfied	2. Slightly unsatisfied	3. Slightly satisfied	4. Very satisfied
1.					
2.					

	Important area/aspect of your life	Why does it make you feel happy? (why is it important?)	How satisfied (happy) are you with these areas of your life?			
			1. Very Unsatisfied	2. Slightly unsatisfied	3. Slightly satisfied	4. Very satisfied
3.						
4.						

	Important area/aspect of your life	Why does it make you feel happy? (why is it important?)	How satisfied (happy) are you with these areas of your life?			
			1. Very Unsatisfied	2. Slightly unsatisfied	3. Slightly satisfied	4. Very satisfied
5.						
6.						

* If the service user was satisfied with all the areas listed above, please ask them to think of three aspects of their life that they aren't so satisfied or happy with, even if these are less important:

	Important area/aspect of your life	Why does it make you feel happy? (why is it important?)	How satisfied (happy) are you with these areas of your life?			
			1. Very Unsatisfied	2. Slightly unsatisfied	3. Slightly satisfied	4. Very satisfied
7.						
8.						
9.						

2. What are my goals and how can EI help?

For the things you have written down, please think about why you're not satisfied, and what you think *you* and then the *EI team* might be able to do to change this and to feel more satisfied. There is an example below to help you:

	Area of my life (<i>as listed above</i>)	If you are not satisfied with this area, please state why (<i>e.g. I find it difficult to talk to people and would like more friends</i>)	Future Goals What could <u>I</u> do to improve or maintain this level of satisfaction? (<i>e.g. slowly work towards doing a social activity or attending a group</i>)	Future Goals What could the <u>EI team</u> do to help me improve or maintain this satisfaction? (<i>e.g. Help me to build up my confidence and social skills. Help me to meet other service users</i>)
1.				
2.				

Area of my life (as listed above)	If you are not satisfied with this area, please state why (e.g. <i>I find it difficult to talk to people and would like more friends</i>)	Future Goals What could <u>I</u> do to improve or maintain this level of satisfaction? (e.g. <i>slowly work towards doing a social activity or attending a group</i>)	What could the <u>El team</u> do to help me improve or maintain this satisfaction? (e.g. <i>Help me to build up my confidence and social skills. Help me to meet other service users</i>)
3.			
4.			

	Area of my life (<i>as listed above</i>)	If you are not satisfied with this area, please state why (<i>e.g. I find it difficult to talk to people and would like more friends</i>)	Future Goals What could <u>I</u> do to improve or maintain this level of satisfaction? (<i>e.g. slowly work towards doing a social activity or attending a group</i>)	Future Goals What could the <u>El team</u> do to help me improve or maintain this satisfaction? (<i>e.g. Help me to build up my confidence and social skills. Help me to meet other service users</i>)
5.				
6.				

	Area of my life (<i>as listed above</i>)	If you are not satisfied with this area, please state why (<i>e.g. I find it difficult to talk to people and would like more friends</i>)	Future Goals What could <u>I</u> do to improve or maintain this level of satisfaction? (<i>e.g. slowly work towards doing a social activity or attending a group</i>)	Future Goals What could the <u>El team</u> do to help me improve or maintain this satisfaction? (<i>e.g. Help me to build up my confidence and social skills. Help me to meet other service users</i>)
7.				
8.				

Area of my life (<i>as listed above</i>)	If you are not satisfied with this area, please state why (<i>e.g. I find it difficult to talk to people and would like more friends</i>)	Future Goals What could <u>I</u> do to improve or maintain this level of satisfaction? (<i>e.g. slowly work towards doing a social activity or attending a group</i>)	Future Goals What could the <u>El team</u> do to help me improve or maintain this satisfaction? (<i>e.g. Help me to build up my confidence and social skills. Help me to meet other service users</i>)
9.			

Service User Needs - Significance and Satisfaction Scale (SUN-SS)

DISCHARGE

Information for clinicians

The aim of this discharge measure is to look back at the areas of the service users' life that were important to them at baseline, and look at how satisfied they now are with them. It also asks them to rate what they have done, and what the team has done, if anything, to help improve this satisfaction. Finally it also asks if there are new areas of their lives that are now important, and again how satisfied they are with it, and what goals for the future can they take away with them as they leave the team.

NB. In Section 1 please fill in the areas of life that the service user provided on their Baseline sheet prior to completing the rest of the scale.

As stated in the baseline measure, if you find that the service user struggles to give answers to the questions, you may wish to use open prompts to suggest areas of their life or goals for the future. Try not to give them specific ideas however as this may bias the results. In light of these comments please complete the following section below:

Today's Date:

Name of Service User:

Date service user joined the team:

How difficult would you say they found it to complete?

Very Difficult

Quite Difficult

Quite Easy

Very Easy

☐

☐

☐

☐

If you have decided to discontinue this measure because the service user is not well enough at present, please indicate when you intend to redo it before they are discharged:

1. What things are most important in my life?

In order of importance, please can you think of at least 5 things that you think are important to you.

Important area / Aspect of your life (Completed by Clinician from Baseline Information)	How satisfied (happy) are you with these areas of your life?				What did I do (if anything) to help improve my satisfaction in this area?	What did the <i>team</i> do (if anything) to help improve my satisfaction in this area?
	1. Very Unsatisfied	2. Slightly unsatisfied	3. Slightly satisfied	4. Very satisfied		
1.						
2.						

Important area / Aspect of your life <i>(Completed by Clinician from Baseline Information)</i>	How satisfied (happy) are you with these areas of your life?				What did I do (if anything) to help improve my satisfaction in this area?	What did the <i>team</i> do (if anything) to help improve my satisfaction in this area?
	1. Very Unsatisfied	2. Slightly unsatisfied	3. Slightly satisfied	4. Very satisfied		
3.						
4.						

Important area / Aspect of your life <i>(Completed by Clinician from Baseline Information)</i>	How satisfied (happy) are you with these areas of your life?				What did I do (if anything) to help improve my satisfaction in this area?	What did the <i>team</i> do (if anything) to help improve my satisfaction in this area?
	1. Very Unsatisfied	2. Slightly unsatisfied	3. Slightly satisfied	4. Very satisfied		
5.						
6.						

2. New areas of my life that are important

Ask the service user if there are new areas of their life that are now important to them, and how satisfied they are with this area.

Area of my life	How satisfied (happy) are you with these areas of your life?	Why I am /am not satisfied with it	<u>Future Goals:</u> What could I do to improve this in the future after I leave the team?
	1. Very Unsatisfied 2. Slightly unsatisfied 3. Slightly satisfied 4. Very satisfied		
1.			
2.			

Area of my life	How satisfied (happy) are you with these areas of your life?				Why I am /am not satisfied with it	<u>Future Goals:</u>
	1. Very Unsatisfied	2. Slightly unsatisfied	3. Slightly satisfied	4. Very satisfied		What could <u>I</u> do to improve this in the future after I leave the team?
3.						
4.						

Goal Setting

My Goals for the next 6-12 months are:	I hope to achieve these goals with the following strategies:
1. 2. 3. 4.	1. 2. 3. 4.
My Long Term Goals are:	
1. 2. 3. 4.	1. 2. 3. 4.

Teaching and Training Competence

Teaching & Training 1: Health Professionals

1. Needs assessment of the audience

I began this competence by choosing the broad theme of qualitative research methods for the training workshop, because it was felt by the team that there was a lack of knowledge in this area, and that it would prove useful. Equally I recognised that in a growing NHS culture of evidence-based practice, clinicians would benefit from knowledge of this approach as focus is often aimed at a quantitative viewpoint.

On recognising that a discussion of qualitative methods in its entirety was near impossible in one afternoon, it was important for me to ascertain the current knowledge of the audience, their needs and areas of interest. I therefore asked interested individuals to complete a short questionnaire highlighting what knowledge they had, what they would like to learn, and in what ways they wanted to apply this knowledge individually.

This task highlighted the variation that existed. For example the team psychiatrist had an established interest in qualitative methods and simply wanted to learn about Interpretative Phenomenological Analysis (IPA). Conversely, other members of the team had never heard of qualitative methodology, and therefore sought a different approach. It became apparent that I needed to provide a basic introduction to qualitative methods that was succinct, clear and presented in an interesting way, along with resource information for further reading to build on this knowledge. Equally I needed to focus half the session on IPA, as it was felt that in an early intervention team, understanding perceptions, and experiences would be important to any piece of

qualitative research. I concluded that a two-part workshop was necessary, allowing the opportunity for individuals to only attend the first or second session depending on their needs. The workshop was advertised by means of a poster that was widely distributed.

2. Learning objectives of the audience

The learning objectives for the audience were developed in line with the needs assessment as follows:

1. To provide an introduction to qualitative methodology, when it is useful and a critical appraisal of how it compares to quantitative methods
2. To encourage an awareness of reliability issues and bias in research
3. To provide a brief overview of the types of qualitative analysis
4. To provide a theoretical introduction to IPA
5. To provide information and practice regarding how to conduct IPA

3. Description of the training

3.1 Mode of delivery

The training was delivered as a workshop over a three-hour period, with a 30 minute break half-way through. It was conducted using a power-point presentation, and to limit prolonged periods of lecturing and thus loss of concentration, interactive activities were incorporated. These included a flip-chart brainstorming task, role-play, questions game and practical IPA session.

3.2 Planning the training

I began by reading the text ‘Tips for Trainers’ (Race & Smith, 1996) regarding how to plan and execute the training. I also searched some teaching based websites that focused on techniques used in educational psychology. This provided me with ideas regarding how to integrate different ways of presenting the information, the importance of planning break times, refreshments, materials, providing information prior to the training to students and how to deal with nerves.

I chose to adopt a ‘Cooperative learning style’, whereby I presented information in a lecture style; however encouraged collaboration, questions and discussion about attendee experiences to keep the learning salient. This model worked well because the group was relatively small, however would have been less feasible in a larger group. Equally I feel the conversation flowed well because attendees were colleagues and therefore seemed comfortable in my presence. Had the group consisted of strangers, I would have needed to add an ice-breaker task to overcome this issue.

I chose to structure the workshop in the following way:

1) Introduction to qualitative methods.

In this section I hoped to convey that qualitative methodology is important for exploring a new area and reduces some of the bias that can occur in quantitative research. I felt that to convey this message would require an active illustration of my point. This was conducted in two ways:

i) Questions game

Firstly I wanted to illustrate the difference between ‘open’ questions (used in qualitative methodology) and ‘closed’ questions (used in quantitative). To do this I decided to provide pieces of paper to the audience with a question: half would be open, the other half closed. I then asked attendees to take 5 minutes to ask the questions to everyone in the room, and feedback the information gathered. Those who had asked an open question elicited more info, and recipients stated they felt more able to express their thoughts and preferences.

ii) Role play

This aimed to illustrate the process of data collection and involved asking two members of the audience to read out two role play interviews, one that was very closed and directive, the other open and exploratory. We then collectively discussed both approaches for data collection.

iii) Brainstorming

This led on neatly to a general brain storming session that I felt would be an effective way to collaborate and generate ideas about when attendees might use qualitative methods in their job roles and the issues related to this.

2. Interpretative Phenomenological Analysis

The second part of the workshop consisted of an introduction to IPA, a step-by-step guide to conducting it, a worked example and a practical group task to enable practical experience of the process.

3.3 Written material used

The written material used included a handout of the power point presentations, example of an interview transcript with IPA analysis indicated, interview extract for IPA analysis and a document briefly summarising the different types of qualitative analysis. The handout also included an extensive reading list with books, journals and web addresses for further information.

4. Reflective commentary regarding the video

4.1 Trainee strengths

I feel that a key strength included the organisation and format of the teaching. So often focus is on abstract ideas and theory, when individuals actually seek an understanding of the process of when and how to use IPA also. Having observed the video, my body language appeared to be relaxed, open and friendly and I made regular eye contact. Similarly, positioning the chairs in a semi circle seemed to help in terms of facilitating discussion, and created a more relaxed environment. Finally, I coped with my nerves by using deep breathing and imagery techniques to stay relaxed and focused.

4.2 Trainee weaknesses

The first weakness I would take into consideration in the future was the lack of time I allocated to set up, in that I had not tested linking the projector to my laptop prior to the session and this proved very difficult, raising anxiety levels. I also noted that at times I didn't appear so confident and became somewhat hesitant and repetitive. This was in part due to nerves, but also the nature of the topic I was teaching, which is not straightforward to explain. I also tended to use my hands a great deal which could be distracting.

5. Evaluation & Reflection

5.1 Knowledge & skills

The evaluation sheets appeared to indicate that students felt that the workshop had improved their knowledge on the subject, and they also stated that they felt able to use IPA, although would require a look at more resources to re-familiarise themselves with the process.

5.2 Communication – verbal

As previously stated, I feel that my verbal communication could have been improved in terms of trying to ensure that I didn't repeat myself and remained concise. However I also feel that I maintained eye contact and tried to appear relaxed, friendly and approachable to encourage a more collaborative environment.

5.3 Communication- written

The feedback suggested that attendees were concerned that although they had felt comfortable to do IPA in the workshop, that over time they would forget this knowledge. Therefore I wonder whether it would have been beneficial to provide more detail regarding how to do the analysis, particularly using examples from my own research.

5.4 Training style

The training style that I chose to use incorporated a mixture of models, but principally a 'cooperative learning' style. This approach elicited proactive participation from some, perhaps the more confident individuals, however other students did not appear comfortable playing a more active role and simply nodded. Nonetheless, I found that the brainstorming task did break the ice, encouraging more equal participation and seemed to motivate the group.

The role play proved fun and humorous despite initial reluctance from the volunteers. The feedback suggested that the visual and active nature of the task was more effective at illustrating why qualitative research is important than if I had simply explained the issues in written and verbal form.

5.5 Areas for improvement

There are a number of lessons that I learned from this practical experience. I would ensure careful checks of the equipment were carried out, consider providing more practical information and use the interactive tasks in future teaching. This task has encouraged careful planning in the future and enhanced my confidence in teaching and public speaking.

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Reflective commentary of the teaching video

The workshop session went well and I felt that because I was a familiar face to the audience, they were more actively involved. However, had I not known them, I wonder if a more proactive approach to 'break the ice' would have been necessary. I was pleased with the way in which I presented myself in the teaching workshop, and feel that my strengths included (i) presenting with an open, friendly and inviting approach; (ii) the fact that I regularly checked if people were following what I had said, and whether it made sense; (iii) the use of interactive methods to illustrate my points; and (iv) trying to facilitate a proactive and collaborative generation of ideas and thoughts. The weaknesses that I noted were that (i) I occasionally appeared to be too quiet when speaking; (ii) I didn't always maintain good eye contact with the audience; (iii) I sometimes took a long time to make a point and repeated myself; (iv) I gesticulated a lot – which was given as a constructive criticism at the City University Workshop presentation. I had considered the latter issue following the workshop but when concentrating on what I was saying, I think I forgot to try to reduce this, and in fact find it helped me to think. I discussed this with Professor Peet, who actually felt that this was a positive thing to do when talking and made me appear more confident. I have therefore drawn the conclusion perhaps that this is a matter of individual preference, although something I will still reflect on.

I also wondered if at times I presented the information in a rather patronising manner, however on reflection I wanted the information to be presented in a straightforward manner without jargon. Looking at the evaluations I received, this was not mentioned

as an issue. I can still tell from the video that I am nervous and I hope that this will be something that I can work on in the future. Ordinarily I think that I would have been more relaxed, but due to problems setting up the equipment in the morning, any attempts at stress management and relaxation were somewhat compromised! In the future I will try to consider planning the organisation of setting up the equipment in better time. The video does seem to illustrate however that the arrangement of chairs, use of flip-chart and the visual presentation of the power-point was reasonably effective. Some slides may have benefited from using a slightly larger font, but to overcome this, handouts were also provided. Overall I was quite happy with the approach and teaching skills I demonstrated in the workshop. I hope that as I gain more experience, and my confidence improves, that this competency will improve further.

Teaching & Training Competence Report 2: Student Nurses

This competence involved one-to-one teaching sessions over a period of several weeks with several student nurses who required guidance in the critical analysis of health-related research as part of their course. For the purposes of this case study I have chosen to talk about one student to illustrate the process that I undertook and the skills I developed.

1. Plan and design teaching programmes that enable students to learn about psychological knowledge, skills and practices

I was approached by my manager who asked me if I would provide some one-to-one teaching and supervision to some of the student nurses in our team who were currently requiring some help with their coursework and research skills. She explained that they needed specific help with how to critically evaluate a research paper. I felt that this would enable me to further develop some key skills that would benefit my professional development, provide a case study for my doctorate, and most importantly increase my confidence in myself as someone with skills that can be applied and passed on to others! It was recognised that due to my research experience and critical evaluation skills, I would be well suited in the team to provide this teaching.

Designing the teaching

My manager provided me with some information regarding how she felt I could support their learning, but I also felt it was best to talk to the student themselves to ascertain their specific needs. Having met with them, we discussed what their level of current knowledge was on the topic of critical appraisal in research, what they felt that they needed to know, and how they were expected to illustrate this knowledge on their course. It became clear that they felt they had been given little teaching in the area, didn't know where to start and were very anxious about the piece of coursework they had been assigned to review a research paper. We discussed the deadline of this coursework, and arranged to meet four times at weekly intervals, allowing plenty of time for them to write the assignment.

I decided that the most appropriate model of teaching for me to use would be a 'Cooperative Model of Learning'. I was conscious of not wishing to undermine the course teachers for the nursing qualification by providing additional teaching per se, and also wanted the student to be actively involved in the learning, rather than merely being told what to do and when. I was very keen to encourage them to think actively, to problem solve and learn through their own exploration using examples. This was in line with recommendations from my manager that I should not be helping them in such a way that would be unethical and unfair to their fellow students who didn't have access to further help. Therefore I was careful to set the objectives early on with the student, which would include a discussion of how to conduct a critical appraisal followed by a collaborative worked example that wasn't to be included in the coursework. I recognised the need therefore to ensure that they did not expect me to help them write

the essay, nor would I be able to read it and comment, however I could support them to brainstorm ideas.

In line with a co-operative model of learning, I wanted to ensure an ethos of 'mutual responsibility', ensuring the student worked through the appraisal process themselves to generate answers that could be considered one at a time, and doing their own research as a result. By using a case study paper that I had already read and appraised myself, I felt that I would be able to help the student to develop their analytic and problem solving skills, and hopefully boost their confidence by illustrating their own ability to effectively apply new knowledge and skills. This could be achieved using a co-operative learning style, coupled with a problem-based learning.

I also wanted to use a bottom-up approach to learning in that I would encourage active thinking in simple terms that, once understood, could be explained in the wider context using the correct terminology. For example explaining about making errors in research would be considered and this could later be built upon to help the student understand the concepts of reliability and validity. This learning approach was discussed by Kolb (1984), and termed 'Experiential learning'. It denotes that there are four stages of adult learning: i) concrete experience; ii) reflection; iii) abstract conceptualisation and iv) active experimentation. My aim was encompass all of these processes in a collaborative way.

Planning the teaching

I decided to split the 4 sessions into the following: 1) An introduction to what constitutes a good piece of research, including the concepts of bias, reliability and

validity, sampling methods, research design, type of analysis and how it is presented; 2) What is critical appraisal and why is it important to be aware of the quality of a piece of research, particularly in a healthcare setting; 3) A discussion of the steps that can be taken when reading and evaluating a paper, looking for both its strengths and weaknesses and how to illustrate the point with evidence to support the claim. 4) A discussion of a paper (not the one used for the assignment) and a brainstorming session of ideas to evaluate it. I spoke to my manager and it was agreed that it would not be ethical for me to help in the actual writing of the assignment, and that ideas generated regarding the chosen paper should be led by the student, based on suggestions I had given from a previous paper.

I decided to make each session interactive, by asking the student to brainstorm ideas and discuss examples of studies to practice evaluating them. I used a flip chart to do this, and produced several vignettes that enabled me to test their knowledge to some degree in a relaxed and collaborative manner. For example I included examples of studies with obvious strengths and weaknesses in a number of areas, and was therefore able to ascertain the students understanding of these concepts after I had taught them.

2. Deliver such teaching programmes

The student seemed convinced that they had been given insufficient teaching to be able to complete the coursework, however it quickly became apparent that they had a good knowledge of how research is designed and carried out which made it much easier when discussing potential limitations of these methods. Some key concepts such as

‘reliability’ and ‘validity’ were more difficult for the student to comprehend, however given examples and using a flip chart helped this process.

3. Plan and implement assessment procedures for such training programmes

As stated above, the vignettes provided an opportunity to assess the student’s understanding of the key concepts of critical appraisal. In brainstorming the strengths and weaknesses of a paper I had chosen, I was also able to gauge the degree of understanding coupled with an awareness of how to recognise this in a publication. Any issues and queries were therefore discussed and resolved at this stage. I was also provided with feedback two months later that they had received a good mark from their module leader.

4. Evaluate such training programmes

I provided the student with an evaluation form to provide me with feedback regarding a number of issues, namely the planning and structure of the sessions, the clarity and content of my teaching, the way it was presented and how useful they found the practical tasks. This was very helpful in terms of understanding where I might have improved. The feedback led me to draw the following conclusions. Firstly that it would have been helpful if I had provided more written information about the step-by-step process of critical appraisal, as the student found the reading list was a lot to get through and not very concise. It was also felt that more help and advice would have been useful in relation to actually writing up the assignment. This included how to write in an academic style, how to form an argument, justifying the points and so on. This is essentially a separate topic for teaching but one that is no doubt vital for students. In the

future I intend to ask students if they would like some advice and help with regards this issue.

In conclusion, I wanted to try to make research more accessible to clinicians who may see it as a foreign concept. I hope that they were able to recognise the benefits of doing research to inform clinical practice: evidence based practice.

Appendix 1

Needs assessment of the student:

- 1) Lack of knowledge about what 'critical appraisal' means in a research context.
- 2) Lack of understanding about what constitutes high quality research?
- 3) Lack of understanding about key concepts such as a randomised controlled trials, quantitative versus qualitative methodology and reliability and validity.
- 4) Uncertainty about the process of systematically reviewing the evidence and how to form an argument.
- 5) Feeling that there was a lack of teaching and support from their University regarding research methods.
- 6) Anxiety relating to what they needed to do, how long it would take, where to start and how to convey the information in essay form.

Appendix 2

Learning objectives for the student:

- 1) To understand the process of research and where problems can occur in the planning, design, conducting, analysing and concluding stages.
- 2) To understand the potential issues regarding the concepts of reliability and validity, bias, sampling methods, designing measures, analytic methods and drawing conclusions.
- 3) To be able to generate ideas to critically evaluate an example paper, including strengths as well as weaknesses.
- 4) To feel confident in doing a piece of coursework on the subject independently.

Appendix 3

Plans of the teaching

- Information on assessment
- Written material designed

Vignettes – Good and poor quality research studies

- 1) A randomised controlled trial of patients with lung cancer's views about their care. Questionnaire designed by the research nurse. Sample size of 9 patients. Demographics: Age range of 28 to 69, multiple ethnic groups, 7 male. Analysed effect of age, length of treatment, ethnic group and gender on attitudes using T-tests and chi-square analysis.
- 2) An interview study looking to explore the experience of being treated for diabetes in a new clinic. Semi-structured interview based on research in the area and developed within the clinic team of professionals. Piloted on two service users first and adapted. Conducted on 12 service users. Analysed using thematic analysis.
- 3) Evaluation of a nutrition intervention for obese students at a university. Carried out an evaluation of their weight, BMI and views about their weight at the end of the intervention. Some students had an intervention for 2 months, others 3. Sample size of 30 students and a control group of normal weight students (n=30).

Appendix 4

Evaluation of the teaching

- **How were the learning objectives met?**

I ensured that the students learning needs were met based on the information from their course and also verbal reports of what they felt they needed to know and what they required help with.

- **Assessment instruments**

The assessment of learning was evaluating by the coursework produced by the student. I received feedback that they had passed this piece.

- **Evaluation materials**

The student was given an evaluation form that they completed to indicate how useful they found the teaching session.

- **Recommendations for improvement and future teaching**

To improve the teaching in future I would include more information about 'how to' in terms of critical evaluation of research

Teaching & Training 3: Nutritionist Training

Teaching a nutritionist to administer motivational interviewing techniques as an intervention to improve the nutritional service provided to young people with a first episode of psychosis.

1. Justification for Intervention

Providing nutritional assessment in mental health is a novel concept. At Rotherham Early Intervention Team, young people with psychosis are offered a holistic care, and part of this includes nutritional assessment and advice about how they can adapt their diet to improve mental as well as physical health. As this population tends to have poorer diets than the general population (McCreadie et al., 1998; Stokes, 2003), they are at a great risk of weight gain and obesity due to the side-effects of anti-psychotic medication (Catapano & Castle, 2004; Taylor & MacGaskill, 2000).

Due to the nature of the clinical group simply providing information and advice will not necessarily lead to behaviour change in terms of dietary habits. As a result it was recognised that there was a need to provide an assessment and psychological intervention to help individuals to make these changes by setting goals, recognising difficulties and developing strategies. A review of the literature (Earle et al, in progress) established that interventions that were tailored and encouraged collaboration were most effective. These included the use of models of therapy such as Motivational Interviewing (MI) and Cognitive Behavioural Therapy (CBT). Therefore as a Health

Psychologist, I developed an intervention that utilised these tools and met the following criteria:

- 1) Tailored in nature- establish the individuals intention and motivation to change (using a questionnaire based on the 'Transtheoretical Model')
- 2) Thorough assessment of current behaviours, beliefs, perceived barriers to change, family situation, habits, practical issues, body image, nutritional knowledge
- 3) Develop and set realistic goals
- 4) Develop a plan of action with the individual and establish any reasons why it might be difficult to put into practice, and how these barriers could be overcome
- 5) Consider specific needs and tailor feedback accordingly.

As the nutritionist visits service users regularly to discuss their eating, it was felt that he would benefit from training in how to conduct this intervention, the counselling skills and tools required, and the general process involved and how to carry it out. As this intervention was designed to be simple and straightforward to carry out it was felt that any health professional with experience of communicating with this client group, could administer this intervention effectively. The nutritionist felt that training in the use of this intervention would add to his skill base and improve the service he currently offered.

2. Needs assessment & Learning Objectives of the audience

The nutritionist had a great deal of experience of communicating with this client group, however little in terms of counselling to facilitate change. He was not familiar with

health psychology, counselling techniques, MI or CBT, and therefore the main component of the training centred on the use of these techniques. It was recognised that the nutritionist was likely to be very familiar with some of the problems that this group would have with making dietary changes, however this awareness would be assessed with a brain storming exercise and other ideas added accordingly.

4. Description of the training

4.1 Mode of delivery

The training was delivered one-to-one to one basis in one single session that lasted approximately 2 hours. This would have been longer had the trainee not already had quite substantial knowledge in the field of eating behaviours and diet. Hence the main aspect of the training focused on CBT and MI techniques to facilitate change, overcome obstacles and utilise strategies. The training included a proactive teaching style of asking questions to generate thinking and establish understanding on the part of the nutritionist. This included generating ideas that would act as prompts if service users struggled to come up with ideas, realistic goals, potential problems, strategies to change and what information to give. The nutritionist generated ideas with the trainer and any missing ideas were later added. He was then given the notes to take away for reference.

The trainer talked him through the process of the intervention and showed him the documents used for assessment, recording information, and also that used to provide feedback to the service users in the form of a feedback pack. The nutritionist had the opportunity to ask questions at any point, and generate ideas for other adaptations he might wish to make, such that the intervention fitted into his ways of working and could be adapted to his profession specifically. This would not involve changing the

intervention inherently, rather adapting it to make it more salient for his needs, which was encouraged. Finally the nutritionist attended a session with a real client and observed the process of utilising the assessment material to provide a detailed feedback pack.

4.2 Planning the training

The only planning required for this training was to establish what the trainee wanted to know, what he felt he didn't know, how he wanted to apply the intervention and in what context. This ensured that I was focusing on aspects of the intervention that were going to be of most use, and that it was adapted to be used in such a way that would prove useful for him. This was built around a generic training programme that could be offered to all and easily repeated.

I also developed an overview of the process for the nutritionist to take away as a reminder and planned several brainstorming sessions. At the end of the training I planned to conduct one role play whereby the nutritionist would have the opportunity to try out the intervention briefly with myself and practice listening skills, paraphrasing and reflecting back, alongside skills in MI such as 'rolling with resistance' and overcoming and challenging certain beliefs.

Finally I compiled a reading list to include more detailed texts regarding MI (Miller & Rollnick, 2002) and CBT, alongside Rogerian counselling (Rogers, 1951). I also included research papers that have used psychological interventions for dietary behaviour in this clinical group (Booth, 1994; Campbell et al., (1994); Glanz et al., 1994).

5. Evaluation & Reflection

5.1 Knowledge & skills

A brief question and answer session was used to establish whether the nutritionist had understood the concepts and models presented. A role play was also used to enable him to practice some of the techniques and feedback was given following this.

5.2 Communication – verbal & written

The trainee was also given an evaluation form to fill in to indicate whether or not he felt the training had been presented in an appropriate, comprehensible and presented in an easy to understand format. The feedback suggested that this was the case. This was perhaps due to the on-to-one nature of the teaching, in that the nutritionist could ask questions at any point in a less intimidating environment than might have been the case in a larger teaching group.

5.3 Training style

The training style that was employed was collaborative and involved proactive working to establish needs and ensure effective transfer of understanding and skills. Questions were encouraged at all times, and the trainer regular stopped to ask if there was anything that the trainee was unsure of at that stage.

5.4 Areas for improvement

The training might have benefited from the nutritionist attending more than one session with a real service user, as one visit did not illustrate the variation in approach that can be taken with different service users. Equally the training may have benefited from more information about motivational interviewing in general such as the use of MI in

healthcare and research that has been conducted. Overall however, the tailored nature of the intervention, and its relative simplicity, made it easier as a subject matter for training, and also negates that those conducting it can adapt it accordingly to meet the specific needs of the individual and their professional approach.

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Training Competency: Report from Trainee

Observer Report provided by Kevin Williamson, Nutritionist

I received training in how to conduct the Psycho-Nutritional Intervention (PNI) from EE in a single training session that took place on the 6th of May 2008. The session lasted approximately three hours. Prior to the session I was asked to provide information about what my needs were, what my understanding of CBT and MI was (at that time it was minimal) and what I wanted to gain from the training. EE also enquired about my work and how I might be able to use these skills. The training was presented in a relaxed and informal manner and I felt at ease to ask questions and request clarification. EE used lots of examples which were useful in terms of understanding how the terminology and theory is put into practice in real terms. This helped me to see that the process is more simple and straightforward than I had assumed, and demystified the subject area somewhat.

Overall I found the training helpful. The reading lists were useful and the written information provided to me was comprehensive enough that I feel confident I would be able to replicate the intervention again with little difficulty. It would have been helpful to have received a more structured training manual in how to do motivational interviewing, however I understand that EE is now producing this anyway.

Kevin Williamson, BSc (hons), MedSci

Nutritionist

Optional Competency: Intervention

Optional Case Study: Intervention

Aim: To design, develop, conduct and provide training in a 'Brief Motivational Interviewing for dietary change and weight loss in young people with a first episode of psychosis' (Psycho-Nutritional Intervention, PNI).

5.1a Assess the suitability of client/s for health-related behaviour intervention

In recent years, treatment for young people experiencing a first episode of psychosis has moved beyond aiming to reduce or eradicate symptoms, to a more holistic approach, considering the needs of the whole person, and often their carers and family. In Rotherham Early Intervention Team, care often includes interventions to reduce stress and improve quality of life which includes financial support, family work, education and vocational advice, support with obtaining benefits, psychosocial interventions and general help with being independent.

One of the innovative developments in this team, is the employment of a full-time nutritionist to provide nutritional assessment and advice to service users. This includes an in-depth evaluation of their dietary habits and feedback regarding the various vitamins, minerals and dietary needs that they may be deficient in, and utilises a computer-assisted programme that calculates such deficiencies, if present, based on 24-hour food diary information. The evidence base for the need for nutritional support in mental health is strong, and a recent parliamentary document: *'The Links Between Diet and Behaviour: The influence of nutrition on mental health'* (January 2008) has

recommended the introduction of nutritional interventions across mental health services, including more research and financial input. The report followed an inquiry held by the Associate Parliamentary Food and Health Forum, and is based on the growing evidence to suggest that nutrition is linked to the onset and treatment of a variety of mental health disorders such as depression (Peet & Edwards, 1997) dementia (Lim et al., 2006) and schizophrenia (Peet, 2007).

People with schizophrenia and psychosis often consume very unhealthy diets (McCreadie et al., 1998; Stokes, 2003). Therefore alongside a negative effect on mental health, they are at an even greater risk of obesity-related physical illnesses such as diabetes and cardiovascular disease (Mann, 2002). Furthermore, people receiving anti-psychotic medication for their illness frequently experience weight gain caused by the medication (Taylor & MacGaskill, 2000) to the extent that obesity is high (Catapano & Castle, 2004). Current care tends to focus solely on the mental health of the patient, and despite a more holistic care in recent years, mental healthcare professionals are often not equipped to assess physical health, and indeed to intervene. As a result physical healthcare needs can often be neglected as attention is paid to mental health.

Hence it is absolutely vital that anyone with a mental health problem is given access to information and support about their physical health, and in particular their diet and eating habits. Following a general meeting with the team nutritionist it appeared that, based on previous assessments, these habits were very poor. For example there were reports of individuals 'eating 15 packets of crisps and a bottle of Baileys liquor' as a standard daily food intake.

— A concern that was apparent in Rotherham Early Intervention Team, is that although nutritional advice is given, little is known about whether or not it is being put into practice. Having spoken to a few service users it became apparent that this was difficult. Similarly to smoking, they may want to make a change but until they have support in considering how to do this, and recognising how to break down the barriers to change, it is likely that the information will not be put into action. Following a preliminary discussion with several service users, some had no motivation to change and little understanding about the reasons why it might be worthwhile, others wanted to change but didn't know how, and others still were doing so but found they needed support to maintain this or had failed previously and lost confidence in their ability to make a sustained change.

Therefore it was deemed necessary to offer a support service that incorporated goal setting, recognising barriers, and collaboration to formulate a realistic and individualised plan. A tailored element seemed highly necessary due to the variation in behaviour and motivation across the group. The focus of the intervention could include weight loss, healthy eating or both. Indeed for some it may include weight gain as this was an issue for a select few service users. Previous research has focused on weight loss, however there is a need to offer interventions to promote healthy eating also, and weight gain if required. Research suggests that participation and motivation is good in this clinical group (Weber & Wyne, 2006), however there is also a need to tailor depending on the cognitive and social functioning of the service user, considering psychological factors that affect eating, shopping and diet. It is these issues that may not be dealt with by a nutritionist. Generic interventions that aim to improve diet or help others to lose weight, are unlikely to be suitable for this group that are somewhat

heterogeneous in terms of abilities, symptoms, anxiety and other factors that may impact on eating and achieving goals.

It was anticipated that in trying to make collaboration the focus of the intervention, the aim of increasing a sense of control over one's health would in itself be therapeutic in terms of empowering individuals and increasing confidence and self-esteem. Therefore the intervention would aim to encourage proactive thinking and the development of tools, but the responsibility to change and put this into practice was with the service user. This was in part due to the fact that the intervention was brief and therefore long-term support was not feasible, but also due to the fact that the service ethos centred on empowerment and helping others to utilise key skills and strategies when they left the service.

5.1b Identify and negotiate the behaviour change goals of the client/s

A review of healthy lifestyle interventions focusing on behaviour change (Green et al., 2000) appeared to suggest that tailored interventions were most appropriate in terms of dietary change because they considered the idiosyncratic nature of each individual's specific needs and lifestyles. The level of motivation to make behaviour changes and the specific goals in relation to this were likely to vary depending on the precise needs of the individual. Hence there was a recognised need for a degree of assessment to enable the provision of feedback that was most salient to the individual. For example it was anticipated that many would want to lose weight, some to improve their diet, a small proportion to gain weight, and then others may require information and support on topics related to specific issues, for example weight training and exercise, mood and

food, recognising hunger, assertiveness and confidence, body image, stress management, sleep and daily habits and activities.

As a result it was not deemed appropriate to identify and assess goals for the purpose of designing one stable intervention, but rather the intervention itself would depend on each individual case and therefore one rigid protocol was not appropriate. Information from the nutritionist suggested the need to consider factors affecting dietary behaviours such as stress, mood, habit, body image, self esteem and family; and therefore before the commencement of the intervention, information was gathered on these topics for potential use in feedback. However it was not until the assessment process began that needs could be isolated and the process of developing the intervention established.

Consequently it became an evolving and iterative process wherein novel needs were identified. Had the intervention been pre-chosen and set with no adaptability, it is predicted it would have proven less effective as undoubtedly it would have expected service users to conform and 'fit into' fixed parameters, rather than adapt to their needs. By helping service users to generate their own ideas about what changes they could make, seemed to improve the likelihood that they would put this into practice. As Early Intervention aims to meet the specific needs of each individual, an intervention of this kind should indisputably follow suit.

5.1c Assess the cognitive, behavioural and situational determinants relevant to their current behaviour

5.1c.1 Assessment

The service user completed a series of questionnaires prior to the visit, which included the following:

- ***BWISE- Body image, Self-esteem Evaluation Questionnaire*** (Awad & Voruganti, 2004). This assesses beliefs about weight, image and its effect on social functioning, using a 12-item likert scale.
- ***Readiness to Change Eating Habits*** (Prochaska & DiClemente, 1982)- This establishes an individuals motivation and intention to change, and labels them as one of 5 stages of change: 'Precontemplation', 'Contemplation', 'Planning', 'Action' or 'Maintenance'.
- ***Difficulties with trying to eat healthily*** – This essentially considers the benefits and costs of eating healthily (decisional balance).
- ***Knowledge about nutrition*** – basic nutritional knowledge (written by a myself and a nutritionist).
- ***Beliefs about control and my health*** (Wallaston, Stein & Smith, 1994) – This is the multidimensional health locus of control scale, which establishes whether someone feels that they have control over their health, or whether they believe it is in the control of powerful others such as doctors, or conversely due to chance or fate.

This provided some useful information to aid the assessment process and also to evaluate the effectiveness of the intervention in terms of motivation and intention to change. The face-to-face assessment phase included a detailed investigation of current eating behaviours, incorporating habits, mood, time, family and any other influential variables.

5.1c.2 The procedure in context

The intervention itself involved the following procedure. Service users were identified as suitable to receive the intervention if they were deemed by either themselves, the nutritionist or their care co-ordinator, as eating a poor diet or engaging in unhealthy eating behaviours. They were then asked whether or not they would like to be seen. Almost all the service users that were identified as suitable to receive the intervention, asked to be seen. EE then liaised with the care co-ordinator and service user to agree an appropriate time, and service users were seen in their own home for the intervention, which lasted approximately 1 hour. As previously outlined, the session included an assessment of what they wanted to achieve, followed by current diet and eating behaviours, barriers to making changes, how these might be overcome and an agreed plan of action.

5.1c.3 The Psycho-Nutritional Intervention (PNI)

The PNI session followed a distinct CBT format (See Appendix). This principally included a form of CBT known as Motivational Interviewing (MI), which helps to prepare individuals for change with the use of simple counselling techniques to overcome barriers. The PNI process included the following which were offered at different stages depending on motivation:

1. **Goal setting** –‘SPORT’ acronym for goal setting in Cognitive Behavioural Therapy (CBT), to ensure they were ‘specific’, ‘positive’, ‘observable’, ‘realistic’ in their aims and that the ‘timeframe’ was suitable.
2. **Agreed Involvement** - Service users were also reminded that the aim was to collaborate together to develop ideas, strategies and provide information and support; however the actual behaviour change was their responsibility, and therefore they were asked how they felt about this to ensure they had realistic views.
3. **Cognitive Aspects** – This assessed the individual thoughts about behaviour change, alongside the perceived barriers and benefits of making changes. Information from the ‘Difficulties with trying to eat healthily’ measure was used as a basis and further information was collected, for examples the effects of stress, habit, family behaviours and expense. Negative and unrealistic beliefs in relation to change were then challenged, asking the service user for evidence for their claims, and considerations of alternative options and outcomes. The question was also posed ‘*How can we keep your thoughts positive?*’ and ‘*What’s going to help you to do X?*’. This enabled the service user to actively participate in problem solving, create ideas that were more realistic for them, and taking ownership for the final intervention, to help increase confidence.
4. **Behavioural Aspects** – This section aimed to illustrate the relationship between thoughts and behaviours, to illustrate why certain beliefs and thoughts related to eating and making changes affect behaviour. For example those who had tried to

make changes and feel that they failed often held the belief that there was no point in trying again and this was causing them to maintain unhealthy habits. Having challenged the reasons for the failure, and suggesting that relapse is common but doesn't mean failure, the service user was supported to change these beliefs and therefore consider adapting their behaviours to follow suit. Service users were also asked: *'Do you think you will be able to do X?'; 'Shall we start with something more simple and build up to that?'; 'What reasons can you think of as to why you might find making those changes difficult?'; 'What could you do differently to reduce this difficulty?'*

Many service users were highly motivated to change and were aware of the relationship between their feelings, habits and dietary behaviour, therefore for some the above format was not appropriate, and a more simplistic assessment was made as follows:

- **Behaviours** – e.g. what, when, where, with who do they eat?
- **Barriers** – e.g. cost, lack of knowledge/cooking skill, habit, taste
- **Suggested strategies** – e.g. portion control, recognising hunger, distraction, eating foods that reduce cravings, meal planning and preparation advice. Generation of ideas about potential factors that might hinder the effectiveness of these strategies.
- **Information or support** – what to eat, how to shop, cooking advice

5.1.d Develop a behaviour change plan based on cognitive behavioural principles

5.1d.1 Feedback

The assessment information was processed and used to create an individualised pack for each service user with both plans, agreed goals, information and guidance. Here are some examples of documents that were included:

1. **Fridge Prompt** – pictures to act as visual reminders of what the service user was trying to achieve. For example photos of food, diaries, alarm clocks in relation to agreed objectives. This was tailored to the goals set by the individual, printed on card and included written reminders.
2. **Healthy Eating Plan** – an informal contract to remind the service user about what they wanted to achieve, why they had found this difficult in the past, what they intended to do (their goals), what small steps they would take at first and when they intended to begin.
3. **Information Sheets** – Brief guides regarding mood and food, portion control, emotions and eating, stress, sleeping, recognising hunger, assertiveness when eating with others and telling others about their healthy eating plan, relaxation techniques. These were all developed and written by EE.
4. **Meal planning & Recipe guide** – A potential barrier that was highlighted by the nutritionist, was that many service users did not know where and how to buy healthy food, how to store it, how to prepare it and how to cook simple recipes. This guide was designed to provide helpful information in relation to this.

5.1e Ensure monitoring and support for behaviour change plan

As the intervention is very brief (only one face-to-face visit), it was backed up with two telephone calls and some additional encouragement and support from the service user's care co-ordinator. The idea is that this intervention could be easily administered by other staff, was quick and time effective, and encouraged the service user to follow information and guidance, in a sense following a self-help plan. By empowering service users to take control themselves with the tools they are given, enables a therapeutic effect regardless of weight and dietary change in terms of perceived control that they have for their own health, confidence and self-esteem. Therefore this intervention was deemed to be potentially beneficial on a number of levels.

5.1f Evaluate outcomes

The intervention was evaluated using a part- randomised controlled trial (RCT). The effects of the intervention, in terms of perceived behavioural control, dietary change, body image, perceived barriers and nutritional knowledge were assessed over three time points, and also compared with those only receiving standard nutritional input from a nutritionist (treatment as usual); and those receiving no nutritional input at all (control). The service users also received a short questionnaire to ascertain whether they found the intervention helpful and user friendly (See Appendix). The information booklet that accompanied the intervention was also assessed to ensure that it was pitched at the correct level and written in a way that could be understood by the client group, with information being presented in the best possible format (See Appendix). The results of this evaluation form the research competence of the professional doctorate, however preliminary responses from service users were very positive. Based on a Likert scale of 'Very satisfied' to 'Very Unsatisfied', service users rated how helpful they had found

the intervention as 'Very Satisfied' (83%) or 'Quite Satisfied' (17%) suggesting that the intervention had been well received.

In terms of a personal reflective evaluation, several issues were identified as areas that could be improved. Firstly the intervention may have proved more effective if it had been offered over several sessions to reinforce ideas and overcome unforeseen barriers. However as the intervention would need to be administered by a range of health professionals in real world settings as part of their standard care, a brief intervention is necessary for this purpose. For example it could be used by nutritionists, occupational therapists, support workers, social workers and nurses, who may have little time aside from their usual duties. Equally it needed to be straightforward and utilise basic CBT techniques so that it could be offered by those who didn't necessarily have any CBT training. Future work to follow will include the development of a manual to support the intervention to provide information to others who wish to use it, including information regarding motivational interviewing and example case studies.

In evaluating the conducting of the intervention itself, a number of key points can be drawn. Firstly the intervention is simple to follow and encourages the open generation of ideas and information from others in the form of an assessment. The formulation component requires that the service user collaborates with the practitioner to generate ideas and barriers and think of practical strategies and goals to overcome these. This makes the process empowering for the individual and in practice appeared to boost engagement and satisfaction with the service. Secondly, the intervention is highly tailored and requires some degree of creativity. This keeps the process challenging yet interesting for those conducting it; makes the service salient to the needs of the individual and enhances the likelihood that ideas will be taken on board.

Finally, the intervention is novel, because it meets the cognitive and social needs of this specific client group, and unlike other interventions using similar psychological techniques with people with psychosis, this intervention considers healthy eating and weight gain, as well as just weight loss. Young people with psychosis may be deemed to be of a healthy weight, however their diet could be highly inadequate, leading to poor mental health, and physical health in terms of cardiovascular disease and diabetes, if not eventually obesity. Hence it aims to optimise nutrition for mental health as well as physical health.

5.1g Negotiate completion, follow-up or referral as appropriate

For the purposes of an evaluation, the original intervention service was offered to thirty service users, however this will likely increase with the service being eventually offered by the nutritionist and an occupational therapist. In terms of the completion of the intervention, it was structured in such a way, that service users were encouraged to make changes, and these were assessed after 6 weeks, and again 3 months following this. For those requiring continued support, this could be given by their care co-ordinator. Care co-ordinators were kept informed of the progress, especially for those service users exhibiting low mood, high anxiety or the possible symptoms of obesity related illness, for which further intervention may be required. It was the agreed responsibility of the care co-ordinator to decide what further interventions and necessary referrals would be required in light of this.

In conclusion, there is a distinct need for an intervention that considers healthy eating as well as weight loss in this client group. Although a formal evaluation is not yet complete, this intervention seemed to be effective in terms of providing a tailored and

proactive support service; and also empowered individuals, enabling them to feel a sense of control over an aspect of their health: what and how they choose to eat. Mental illness could be deemed disempowering because you may feel that you rely on medication or the continued support from others. However, diet is one aspect of an individual's life that, at least while living in the community, they continue to have full control over.

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Optional Competency: Intervention Workplace Contact Report

Observer Report provided by Kevin Williamson, Nutritionist

I have been asked to write this report because I have had direct contact with the trainee Health Psychologist (EE) whilst the intervention was being conducted and observed the process, both in sessions with clients and the development of resources and provision of feedback.

The justification for the intervention is certainly evident. There is a need for nutritional input for mental and physical health, and my role in the team is to meet this need, however a proactive and tailored brief intervention can help service users to put this information into practice.

Having witnessed the intervention, it seems that many service users engage well, are proactive in the process and appear keen to make changes, agree goals and receive information. Those who were less engaged with the intervention were likely so due to the nature of their illness at that time. The intervention provided useful information that included both written and visual information and prompts. I was involved in evaluating the documents provided and they were concise and easy to read for this particular client group.

In an ideal world, repeated sessions would be beneficial for clients to reinforce the ideas that were discussed, however I recognise that the focus was to design a brief intervention that could be easily administered by all health professionals. Initial

responses to the intervention suggest that it is a worthwhile addition to the current nutritional care offered, and could be offered by other members of the team.

Kevin Williamson, BSc (hons), MedSci

Nutritionist

Optional Competency: Dissemination

Aim: To provide expert opinion and advice, including the preparation and presentation of evidence in formal settings.

1. Description of client's needs

Food & Behaviour (FAB) Research is a non profit organisation that aims to promote research and the dissemination of information regarding the relationships between what we eat and the effect on behaviour, learning, mood and mental as well as physical illness. The organisation delivers regular conferences to a wide ranging audience regarding the latest research and practice related to diet and behaviour. The organisers (principally Dr Alex Richardson who founded the organisation), were preparing a one-day conference for health professionals, teachers, parents, carers, service users, and anyone else employed in a field that would benefit from advice about nutrition and how to apply this information. Dr Richardson asked my supervisor, Professor Malcolm Peet if he would consider presenting, and also whether he had any colleagues who had begun to put evidence into practice. He asked myself and the team nutritionist to present a 30 minute talk.

In Rotherham Early Intervention Team for Young People with Psychosis we have developed an innovative service, whereby service users are seen by a nutritionist for their mental as well as physical health. However, making changes to their diet is not easy, especially when service users are experiencing stress and the symptoms of their illness. Hence providing information is not necessarily enough to illicit behaviour

change. As a result I have developed a psychological intervention using CBT techniques to assist individuals to make these changes. It was agreed that many people would be interested in this intervention, and the ideas that support it because difficulties changing eating behaviours apply to everyone in a range of settings. Hence I was asked to present the intervention, my research and the current evaluation of this work. This followed on very neatly from the presentations that my colleagues would give. For example Professor Peet provided information about the evidence base of nutrition and psychosis, including anti-psychotic induced weight gain. This was followed by the team nutritionist who described how this information is being applied in a practical sense that is highly novel. Finally my presentation illustrated the simple techniques and strategies that can be used to help people make changes using psychological techniques, as the provision of information alone is not enough.

Having agreed to present at the conference, I telephoned the organisers to discuss what their needs and objectives were. It was agreed that I needed to ensure the presentation was in layman's terms, as there may be people in attendance who were not health professionals. Equally it needed to include a brief overview of what health psychology is, for those that wouldn't know, and provide strategies that would be useful across a range of settings and not only for people with psychosis. It was agreed that I would talk for 30 minutes with question-time set at the end of each block of presentations.

Although I felt clear about what I would choose to talk about – the psychological intervention I have developed, I was still concerned that as the audience would be from numerous backgrounds and standpoints, that pitching it at an appropriate level would not be easy. I wanted to make sure that I brought something innovative to the talk, and

hoped that the psychological techniques illustrated would achieve this; however I was concerned about talking about cognitive behavioural therapy, for example, which many people would not be familiar with. After much reflection, I decided to present the information in very simple terms, but offer sources of information such as books, papers and websites, for more in-depth descriptions and information.

2. Expertise drawn upon in providing advice

I accessed information and advice from a number of sources. In terms of the content of the presentation I accessed books and research papers to back up my arguments, however it was agreed that due to the nature of the audience I would keep research discussion to a minimum and mainly discuss the concepts and what I did in practical terms. As the intervention itself had been designed following evidence from a systematic review, I felt that I could justify a solid evidence base for my choices, however I felt that discussing 'systematic reviews' may have been too advanced, therefore decided to keep the 'scientific rigor' to a minimum.

In terms of doing the presentation I sought advice from experienced colleagues regarding the number of slides I would need, presentation on these slides, and advice about how to deal with nerves, as this was a significant concern! My supervisor Professor Malcolm Peet, and the nutritionist reviewed my slides and gave feedback on the content and were a great support.

I took a lot of advice that I had received from the course at City University regarding how to plan and give a presentation. For example I tried to brainstorm what I wanted to say, plan the layout in bullet points and ensure that I did not include too much on the

slides but would add images to make it more interesting. I was aware that the audience was likely to read the slide as soon as it is put up, and therefore the information should include key points only and I would try not to read them, but rather compliment and add to what was displayed on the projector. I also recalled that clipart can look unprofessional, so I tried to use photos to add interest instead. In terms of ways to make the presentation more interesting, I recalled stories and anecdotes related to clients and situations that I had experienced at work. This would be brief but helpful in illustrating a point and would hopefully put the research into perspective and be of interest to others.

I had also noted the need to ensure that I made regular eye contact with the audience, did not speak too quickly, or divert too much from the key points that I wanted to say, and that I spoke loudly enough with the microphone to be clearly heard.

I found that there were some useful websites, mainly from University sites, that provided advice for those giving oral presentations. One source at The University of Newcastle, stated that you should always tell the audience what you are going to tell them, then tell them, and then tell them what you have told them. Although seemingly somewhat illogical, it all made sense in terms of providing an overview of the talk, and a conclusions or summary section at the end. This helped me to structure the talk and really think about what I wanted the key points to be and the take-home message.

I also decided that I would begin by illustrating the purpose of my talk with a famous proverb: *'You can bring a horse to water, but you can't make it drink'*. This was to illustrate the point that providing information about nutrition is not enough, it will not

necessarily help people to change, and that we have to think about how we can assist people using psychological techniques, removing barriers and setting goals. At the end of the talk, I also ended with a quote as a take-home message: *'What people eat affects how they feel.. but equally how people feel affects what and how they eat'*. This was to highlight the fact that there is a two way process that exists between body/mind and eating behaviours. Most of the focus of the conference concentrated on the former part of this quote, but I wanted the take home message to emphasise the need to consider the other direction in which this relationship exists.

I was careful to ensure that the audience understood my professional background, and that I did not provide information that I was not qualified to provide such as nutritional advice or knowledge of clinical skills that was beyond my expertise. I used a number of resources to develop the intervention that I discussed and was careful to reference these in the talk.

3. Anticipated implications of providing this advice

The anticipated implications of providing this presentation were numerous. First of all it would attract funds for FAB research due to the fact that there was a delegate fee. As FAB relies solely on donations, fundraising and conferences such as this, it is very important for raising awareness of food, mood and behaviour; a topic that is beginning to be applied nationally, and has the potential to provide a role for health psychologists in the future. Secondly it enabled me to disseminate the original work I am doing, and also raise awareness about the team. This is helpful in terms of ensuring people know what we do, and also because it is such a new area, and may influence others to consider using similar services, perhaps that employ health psychologists within them. It is

hoped that the intervention will eventually be marketed online with additional training, to compliment an online training course that is being developed by the nutritionist. As a result this also provided the opportunity to advertise this potential method of bringing in vital funds to the trust. Equally it also enabled me to raise awareness about the field of Health Psychology and how it can be usefully applied in a range of settings. Finally I hope it will have provided some useful ideas and inspiration for those attending to put into practice in whatever their line of work or interest.

4. Final presentation Content

The final presentation was split up into a number of sections, which included:

- 1. An overview of the presentation content – This involved a slide that included the contents of the presentation, broken down into 6 key themes.**
- 2. Justifying the need for an intervention – why do people struggle to eat healthily? – I tried to make the key point here that making changes is not easy, and we need to consider many other factors.**
- 3. A brief introduction to the field of Health Psychology – I anticipated that most attendees would not know what a health psychologist was, however wished to raise the profile and also put the work I was doing into context.**
- 4. Reasons why changing eating behaviours can be difficult – This section aimed to highlight the various barriers to making changes that exist, and why they can present as such a challenge. It considered the role of psychological**

factors such as emotional eating and mood; and the role of beliefs, habit, social comparisons, financial and time constraints in eating behaviours.

5. **The evidence base-** which psychological interventions are most effective. This provided an overview of the different techniques that have been employed, based on the findings of the systematic review.
6. **A brief introduction to Cognitive Behavioural Therapy (CBT)** – This provided a very brief outline of this model of therapeutic intervention, and suggested some of the ways in which it could be used in the context of healthy eating, for example emotions and eating and the relationship between beliefs (cognitions) and behaviours. I tried to ensure that this was presented in laymen's terms without the use of jargon and abstract language. For example, I recognised that some individuals may not have a clear understanding of the term 'cognition' so firstly sought to explain this concept.
7. **What if people don't want to change** – This section focussed in a little more detail about the role of motivational interviewing in behavioural change, including the key concepts and strategies. As with the CBT overview, I tried to ensure that this was presented in a simple and relevant format that used examples in practical terms, rather than just abstract concepts.
8. **Using the 'Stages of Change' model to tailor an intervention** – This section provided an overview of the Transtheoretical model and I sought to highlight

why, as assessment information, this enabled the design of a tailored intervention.

- 9. Introduction to the Supportive eating intervention** – I provided an overview of what I did in practical terms with the service users, and displayed several of the supporting documents and feedback given to service users on the slides themselves. As there are copy write issues with these documents, and intellectual property lies with the trust, I was not able to display these documents so that all the writing was legible, however this received complaints from members of the audience, who couldn't read it. Ideally I should have explained why the writing had to be too small to read, and that the slides were just to give people an idea of the tools I used, rather than access to their content.
- 10. The assessment and evaluative tools** – This involved using slides with the complete measures used in assessment and to evaluate the intervention. I tried to ensure that these were easy to read as it was not a copy write issue.
- 11. The various feedback and strategies given** – This involved again providing slides of some of the feedback information given to service users, such as goal setting sheets, meal planners, information and advice sheets and booklets relating to shopping, cooking, sleep and relaxation, weight loss tips and portion control.
- 12. How the programme is currently being evaluated** – This section provided a description of the part Randomised Controlled Trial (RCT) evaluation, including

the process of conducting this piece of research and the comparison between the PNI, TAU and Control group.

13. Applying these ideas in a broader context – Due to the wide range of professions within which I was aware the delegates had derived from, I felt it was necessary to suggest ways in which these concepts could be applied in a variety of contexts. Ideas regarding how to use this information in other settings such as schools, in the home, NHS teams and in employment were briefly discussed, with the aim of illustrating that these key concepts were adaptable to numerous scenarios.

14. A final take home message quote to summarise the change in focus - I wanted to end the talk with a take home message that succinctly summarised the key concept behind the intervention in a distinct way. I felt that this provided an opportunity to re-iterate the take home message in a more memorable way.

15. A reading list to provide more detailed information – Finally, I provided a reading list for those members of the audience who were perhaps a little more familiar with the concepts and wanted further information. I tried to give a variety of resources, covering most of the topics in the talk, and combining books and papers. As some delegates may not have had access to papers, or funding to buy relevant books, it would have been more beneficial in hindsight to have provided websites as this may have been an easier source of information. For example sites such as www.nhsdirect.nhs.uk have information about therapies such as CBT.

5. Evaluation of the presentation

As the presentation time was near the end of the day, I had begun to feel that I was becoming nervous about presenting. This was in part due to the fact that delegates were paying to attend, in part due to the fact that so many people were in the audience (over 100), and also as a result of the fact that I knew my supervisor Professor Malcolm Peet was watching, and I wanted to do well as I would be representing the team. I did not find it easy presenting last, mainly because all the previous talks were to a very high standard and this made the nerves a little worse! Presenting later is also not easy as you often feel a little more fatigued by this time due to adrenaline and have longer to build up any concerns. When I eventually went up onto the stage however, the talk went very well, and despite initial mild stage fright I was soon enjoying the experience. Once I had begun, I found that one key idea and thought flowed into another, and I added far more than I had intended to!

During the talk I became aware that I might only be focusing and looking at one half of the audience, and therefore I tried to ensure that I looked around the room to overcome this. Equally I had been concerned that I gesticulated too much, and that this could be off-putting. However I spoke to Professor Peet with regards this issue prior to the talk and he felt that I should not be worried. He stated after the talk that I did gesticulate quite a bit, but that it made me seem more confident as a person and in what I was saying, as well as appearing enthusiastic. Therefore he did not feel that this was a concern.

Every delegate who attended the day was asked to complete an evaluation for, for which I was sent copies³. The scoring for my own talk seemed to range from 3/5 to 5/5. Some stated that it was a good and valuable talk, others questioned its relevance and seemed more keen to hear about the scientific developments. Criticisms included that myself and the previous talk had seemed a little quiet. There was also a common complaint regarding the inability to read the slides as previous discussed, however this could not be helped in any way due to copywrite issues.

Professor Peet stated, that although I started off a little quiet and slow, once I had gained momentum the talk went well and that he was happy with what I had achieved. I received a number of compliments from delegates who came up to me to say that they really enjoyed the talk, and the course organiser said that I communicated very well and asked me to consider presenting at another talk. I was very pleased with this as I really lacked confidence and this has given me the boost to feel that I could certainly do it again! I was very lucky to have a great deal of support during this process and the feedback has really boosted my self-belief immensely.

6. Overview of Trainee's performance.

This was provided by Professor Malcolm Peet who observed in the audience at the conference itself (see Appendix).

References:

<http://lorien.ncl.ac.uk/ming/dept/Tips/present/comms.htm>

³ See Appendix for example evaluation forms completed at the Buxton talk and sent to myself by FAB.

Generic Professional Competence

Generic Professional Competence

The following aims to illustrate how my supervised practice has enabled me to meet the requirements of the Generic Professional Competence.

A reflection on my journey....

Looking back over the last two years and reading my practice log, I have come to realise just how many new experiences I have encountered, people I have met, things I have learnt and challenges I have overcome. I now feel as though I am a developing professional, with a number of skills to offer in the workplace, giving me a confidence that I did not have when I finished the Masters degree. As my work experience overview indicates, I had experience of working in a number of different settings, however I was yet to feel able to apply psychology based on the evidence base in an applied sense. As an assistant psychologist I gained experience of clinical work but lacked the knowledge of how this related to the evidence base. As a researcher I became more aware of how to conduct research in a University setting, but felt some degree of frustration that the research seemed to have limited applicability. It was only when I started my supervised practice that I have been able to truly marry the two together, and it has been very satisfying to be involved in a three step process of (i) establishing and assessing a need, (ii) conducting research and establishing the evidence, and then (iii) putting this into practice in a way that directly impacts on service users and patients, in a way that it is possible to experience and witness the benefits firsthand.

I was very fortunate to find a role that clearly indicates that health psychology can be applied to a mental health service. I was given a great deal of autonomy and freedom to choose work that I felt was relevant and appropriate for my training, and feel very lucky to have been able to complete a lot of this in working time, and finish my training in two years. I have received a great deal of support and encouragement and feel very fortunate in this regard. My supervisor, Professor Malcolm Peet has been very impressed with the topics I have covered on the course and colleagues have often indicated how important it is to have health psychology considered in the workplace. I feel that my work has been truly valued, and being chosen for a new post as a qualified Psychologist that was open to Clinical Psychologists too, indicated to me the recognition that the skills I had developed were both worthwhile and in part, unique to health psychology.

I have worked with academics, nurses, social workers, other psychologists, nutritionists, doctors and occupational therapists, learning a great deal about their roles. Equally I have developed an awareness of the structure and processes involved in the NHS, policy developments, and pertinent issues for example BME groups and meeting the needs of young people.

My new post involves setting up a scoping group and leading a research study that looks at cannabis use in mental health, with the aim of receiving training in Solution-Focussed Therapy, and developing a service, and then evaluating it and training others in its use. Should it prove effective, with the help of some of the Stage 2 workshops, I will put together a tender to the trust for a new service. This is a very exciting post that I feel is ideal for me as a Health Psychologist and will allow me to put many more of my skills

into practice. I hope to then gain work in the physical health field, and further my knowledge and training in the use of CBT. For example, there is the possibility of completing a 1 year part-time diploma in CBT studies and practice to build up competencies in this field also.

Overall, I have grown as a person over the two years, worked hard and most importantly feel genuinely excited about a career in health psychology and look forward to doing research, teaching and continuing to develop clinical skills. I am very fortunate to say that I have thoroughly enjoyed the last two years, and never had that ‘Sunday sinking feeling’..

1.1 Implement and maintain systems for legal, ethical and professional standards

Working in the team, often required me to consider the standards of practice that I needed to adhere to, based both on the British Psychological Societies’ requirements, along with that of the NHS, and my own personal beliefs. In line with Unit 1.1b, I was very aware that I needed to ensure that I stayed within the realm of my abilities and qualifications at all times, and that I need to carefully consider how the work I did might impact negatively on both service users and work colleagues. I ensured that I followed guidance, sought feedback from others regarding my professional conduct, and where uncertainties lay, I sought advice from my University and workplace supervisor (Unit 1.1c). For example, a number of members of staff confused the role of a health psychologist and a clinical psychologist, and therefore I ensured that they understood the distinction, and where my abilities lie.

I have worked for a number of years with service users and patients, and felt confident in my ability to work within appropriate and professional boundaries whilst interacting with them. I am aware of the need to consider risk and my own safety alongside that of others. In both my past work experience as both an assistant psychologist and a research assistant I gained extensive experience of considering the ethical requirements and implications of conducting research and clinical interventions.

For example in the research competence that I conducted I had to consider the ethics of offering my additional intervention to only a maximum of half of the service to provide a comparison group. To overcome this I decided to openly offer the intervention to anyone wishing to receive it who hadn't, after the evaluation study. There have been other occasions whereby I have represented the field that I am in- for example promoting health psychology amongst professionals at a conference. Again I was careful to maintain professionalism and appear genuine and open as a professional. In legal terms I was not certain about what my rights were and did not have a clear understanding of how my practice needed to consider legal issues. Therefore to overcome this I again followed the code of practice guidelines and support from the trust. This was especially the case when I attended ethical committee meetings to discuss my research as it enabled me to ensure that the work I was doing met the required parameters.

Perhaps one of the key skills that I developed in relation to this competence was the independent completion of the NHS ethics committee procedures. This process included writing all the necessary documents such as information sheets and consent forms, completing the COREC form, liaising with the ethics committee and attending the

meeting, whereby I was asked a number of questions about the research I was hoping to conduct. As a result of carrying out this process both for the nurse prescribing study, members of FERN and the PNI evaluation study for my research competence. Having independently conducted three studies from start to finish, I feel that research is now something that I have developed good skills in and for which my confidence has certainly grown.

I have been careful to meet the requirements of Unit 1.1a, by ensuring that all confidential information was stored in a locked filing cabinet, and on a password protected computer; and that pseudonyms rather than names were used. I was diligent in collecting consent, and ensuring service users were given the right to withdraw and adequate information prior to the onset of the studies.

To ensure that I maintained a high quality of practice in my research and clinical work, I regularly discussed my work with colleagues and supervisors to ensure I was maintaining consistency and acceptable standards. For issues that I was uncertain about, I sought advice from health professionals and other Psychologists or trainees, and regularly re-educated myself about topics such as statistics, motivational interviewing and qualitative analysis. I also asked others to read my work to ensure it was unbiased and appropriate.

1.2 Continuing development of self as a professional applied psychologist

This aspect of my development was always very important to me. I have sought to remain reflective throughout the process of completing this doctorate, not only in terms of how I could improve as a practitioner, learn from mistakes and developing key skills;

but also in terms of my own mental well-being and understanding, and the impact that this may have on my work and practice (Unit 1.2a). For example I experienced a difficult period in my first year of the doctorate when I was encountered harassment in the workplace from a male colleague. This was dealt with in the correct manner and I was offered support and people to talk to. I did however worry that it might impact negatively on my work. Therefore I decided to discuss my concerns with both my supervisor at work and my university supervisor (Unit 1.2c). They were very supportive and suggested that I had some time out to think. I made sure I had time with friends and family to talk through what had happened and found that this really helped. Following this I made a new plan for the work I needed to do and regained my motivation to achieve these. Soon I was back on track and this alleviated stress and reassured me that I would be able to finish the course in the intended timeframe.

There have been times when I have experienced stress of things have made me feel unhappy, however I think that I have a realistic approach to dealing with this, and I am very aware if it happens. Usually I will follow a routine of trying to eat better, sleep well and talk through or write down my feelings as this always helps. I feel that in getting to know myself better, I have in turn developed key skills that can be applied elsewhere. I have tried to ensure that I use some of the skills I learnt on the counselling course that I did, such as listening skills, and presenting as genuine, open and respectful of the needs and experiences of others. I have become aware of the impact of culture, religion, sex, age, sexual orientation, background and education on how people deal and experience illness, and this has helped me to keep an open mind and not assume that I know what something feels like or why something has happened. I have learnt so much from the people I have worked with, in part due to the fortunate fact that they come

from such a wide range of professional backgrounds and in part due to my inquisitive nature! Overall, I hope that the service users I have worked with, and fellow colleagues have found me to be an open and honest individual who is keen to learn, motivated and respectful.

I have also developed myself as an applied psychologist in terms of writing for publication (1.2d). In the final months of my placement I have submitted two papers for publication – both the systematic review and nurse prescribing paper. Equally I intend to submit the findings of the PNI study, along with a paper about the ‘Service User Significance & Satisfaction Scale (SUN-SS)’. Moreover I have presented at two international conferences and intend to present again at the International Early Psychosis Association (IEPA) 2008 conference in October, taking place in Melbourne.

I am committed to working within a model of evidence-based practice, ensuring I work as a scientist-practitioner, keeping up-to-date with relevant research, changes in policy, and professional body developments. In particular I reviewed the literature in the systematic review to reliably seek evidence to inform my practice (the PNI service) (Unit 1.2b/1.2e). I regularly check the Division of Health Psychology’s web-pages, the British Psychological Society, and key informative websites such as Wikipedia to ensure I understand the subject I am focusing on. Having establishing a need for professional development in this area, I have read a number of books relating to therapeutic approaches, and this has enhanced my work and learning (Unit 1.2d).

1.3 Provide psychological advice and guidance to others

There were a number of occasions throughout my two year placement, where I was required to provide psychological advice and guidance. The most significant one was provided to the service users themselves. Firstly, in the PNI service, I offered help in terms of helping service users to understand the psychological nature of eating and body image. I also used psychological techniques to help them to change their eating by thinking about attention, memory, beliefs and perceptions about eating, habits, emotions; and the impact of eating on mental illnesses such as psychosis, depression and stress and vice versa (Unit 1.3b).

The intervention was designed following the expressed need from a nutritionist for psychological input to help service users put into practice the advice they had been given (Unit 1.3a). I liaised with various professionals to establish a need and the requirements, conducted a systematic review to establish the best practice and evaluated the effectiveness of the intervention in objective terms (outcome measures) and subjective terms (service user evaluation questionnaire) (Unit 1.3c). The intervention involved the use of cognitive behavioural therapy techniques such as motivational interviewing and goal setting, alongside more basic counselling techniques based on Rogerian counselling, that I developed on the counselling course that I completed prior to the doctoral training.

I also visited service users on a regular basis to discuss their mental health in general and how they were feeling, what symptoms they were experiencing and what things were a concern or stress in their life. This again included counselling techniques. I was aware however that I did not have any formal training in CBT for psychosis or indeed

mental health, and therefore I was careful to stay within the realms of my professional competence. However I found that careful listening seemed to be highly beneficial to the service users.

My work also included providing advice to my fellow health professionals (Unit 1.3b). For example, I was asked for my psychological opinion regarding certain service user's behaviours, such as why they were not adhering to their medication. I was also asked to be involved in a study looking at perceptions of nurse prescribing, as this involved the consideration of psychological factors in the development of the interview schedule.

Finally I have been asked for my advice on a regular basis with regards conducting research (Unit 1.3b). Alongside the general concepts of following ethical and practical procedures in research and critically appraising the evidence base, I was also asked to consider what psychological factors might bias the findings in a number of research projects that were being conducted by staff across the trust.

1.4 Provide feedback to clients

I have provided feedback to both service users and health professionals. In terms of service users this has mainly been in the format of various documents regarding their eating behaviours, as part of the Psycho-Nutritional Intervention (PNI). The feedback included written documentation regarding the goals that had been discussed, a plan of action, anticipated barriers to making these changes, strategies to overcome these, an intended timeframe and suggested tips and information regarding making the changes agreed (Unit 1.4d). The feedback was highly tailored to meet the specific needs of each service user and included information that was pitched at the correct level for the

functioning of the service user (Unit 1.4b). For example, this meant considering the reading age of the documents to ensure that they were of an appropriate standard. Equally it was important that the documents were presented in a way that would be most helpful to the service users (Unit 1.4c). As many of them struggle to read well, and were unlikely to read vast amounts of information. It was very important that I used pictures and diagrams where possible to minimise what was presented in written format, and this was corroborated by the service users themselves.

The feedback I received regarding this was highly positive. I evaluated the effectiveness of this feedback in two ways. Firstly I used a trust-developed questionnaire to check that the information was relevant, easy to read and comprehend, inclusive, appropriate and pitched at the right level. This was given to 10 service users. The trust was happy that the information was pitched at the correct level and the feedback documents that I developed (of which there were around 20) will be collated together in a training pack for health professionals to use and adapt in accordance with the guidance from the training manual regarding how to conduct the Psycho-Nutritional Intervention. This will likely form an add-on to the Online Nutrition Training Course that the nutritionist in our team has just developed, for intakes beginning in January, affiliated with The University of Hull.

I also asked every service user who received the intervention to anonymously rate how useful they had found it in a service user evaluation questionnaire (Unit 1.4a).

I have also provided feedback to various health professionals in the format of both the dissemination of the work I have done (wherein I have acted as a consultant for a project), and also in terms of feeding back information about service users that I have

visited, and also in terms of research I have done or read and feel is relevant to that individual. This information has either been fed back informally in terms of verbal and written communication on a one-to-one basis, or alternatively in a more formal setting such as the team meeting or a conference. I have found that I have been requested to provide feedback on a regular basis, and this has ensured that I disseminate what I am learning and doing in practical terms, and also enables me to receive feedback myself with regards the topic, enabling me to learn from the ideas of others.

My supervised Practice: Reflection & Evaluation

This portfolio represents two years of supervised practice as a health psychologist, and illustrates the diverse abilities and skills achieved in this time. As illustrated in the Generic Professional Competence, I was very fortunate to find a research post that enabled me to be creative and highly autonomous in the work I did. I had the opportunity both to do practical tasks that could be applied and illustrate the skills of health psychology to multiple disciplines in the workplace, but also to use these and tailor them to meet the requirements of the competencies for the course.

During my MSc, I first developed the skills of critically appraising research and assessing the evidence base. This was a key skill that has proven invaluable to the work I now do. Working for Cancer Research UK, also enabled me to experience conducting research for publication, and the step-by-step process and organisation required. However, this course has cemented some new key skills. Firstly I now recognise the need to appraise and reflect on myself as a professional, identifying key weaknesses to work on, but also strengths to be applied. Equally I have come to recognise, following my thesis, that theory cannot always be put into practice, and that perhaps the applied research we conduct in health psychology needs to look less at supporting or rejecting a theory and more closely at the exact effects that occur when the theory is applied.

Having worked in an Academic setting, I have now gained experience of working in a multidisciplinary team in the NHS. Understanding the nature of specialist teams and working together has been both an enjoyable and educational experience. Equally the politics, structure and development of the NHS has been a totally new encounter, and

has enabled me to conceive a more realistic viewpoint about what can be achieved in practical terms, something I had little way of conceptualising in real terms within an academic setting.

Perhaps most importantly, I have developed a proactive approach to applying my skills in a more confident and professional manner, and certainly feel more comfortable playing an active and advisory role in work that I had previously assumed was above me. I wanted to become a health psychologist so that I could be involved in creating, developing and evaluating new and existing ideas and concepts, but most importantly, in light of their use and application in the real world. I feel very fortunate to work with people that are still so enthusiastic about making positive changes, and feel very able to do so. As our NHS Trust is relatively small, it openly invites new ideas to set it apart and I have been so lucky to have been given many opportunities that even the most senior members of staff have taken an interest in.

I have felt immensely respected in the work I have done, perhaps because there are not so many trained researchers in my Trust, but also for my psychological opinion. Although not trained as a Clinical Psychologist, just my view point, as a healthcare professional, has been sought on regular occasions regarding a service user, and when asked to provide my opinion, I have received a positive response from the ideas and initial formulations that I gave. However I have always been careful to remain within my professional abilities and made these clear to those I was working with.

Overall the work I have done over the last two years will undoubtedly influence my development and progression as a health Psychologist over the coming years. I have

successfully secured a post that I start on the 29th of September 2008, as a qualified Health Psychologist (Band 7), setting up a new service: Early Intervention Solution-focussed Therapy for Cannabis use within Mental Health Services in Doncaster. I could not have done this without both the qualification, and all the skills I was able to discuss and illustrate at interview. I have been given the opportunity to practice many of the skills I have learnt and developed during the course, for example systematic organisational skills, managing research, effective communication, writing a tender for a new service, designing and evaluating interventions, receiving and providing training in Solution Focussed Therapy, collaborating with outside agencies and stake holders, disseminating information to the Trust and in publications and conferences. I will also be developing new skills, for example clinical skills in a new form of therapy for substance misuse, and most significantly, I will line manage a member of staff- an assistant psychologist. Having managed 33 NHS specialist teams across England in the FERN project however, I do feel that I am ready for this challenge! I am very excited about this post and feel that without the directed training I have had, I would not have been offered the position.

One of the reasons I wanted to become a Psychologist is because I never want to stop learning and developing myself personally and professionally. I come to recognise when I feel stressed and how I cope with this (which can be maladaptive!), however I feel proud of myself that more often than not now, I will talk to others, delegate tasks, write lists and have time out to rest my mind. I have always found walks in the Peak District are beneficial for this process, however when it is raining in the North, a session of Pilates is equally good. Before I did the training I was used to working hard and studying at the same time, but personal life events can get in the way too, so I have

really recognised what I need to do to keep myself healthy physically and mentally. In the future I hope to continue to recognise and act when necessary and also to maintain awareness of myself professionally, a skill I have only really begun to do regularly during the Stage 2 training – in particular when writing my Practice Log.

In terms of professional development, I am keen to develop some more clinical skills, to enable me to more effectively apply theory to practice, and be involved in the ‘practice’ component to a greater extent. I have looked at the possibility of a part-time online training course in CBT, and may consider that in a year or so when I have had a little break from study and have begun to miss it! I look forward to attending any training or courses that are of interest and intend to become more actively involved in the BPS Division of Health Psychology, upon commencement of my membership as a Chartered Health Psychologist. If my nerves can bear it, I would like to do more teaching and oral presentations, and continue to do one-to-one work which I particularly enjoy and find rewarding. I hope that I can build links with other health psychologists, and play a small yet active role in helping to raise the profile of the discipline, something I have witnessed the DHP, and Health Psychology courses achieve in recent years.

In conclusion, this portfolio summarises my journey in the last two years, and hopefully provides an awareness of my own strengths and weaknesses. It also aims to provide a degree of insight into the strengths and weaknesses of current theory and application in Health Psychology, indicating how my own skill strengths can in some small way impact on such weakness.

Section D – Systematic Review

Systematic Review Protocol

Review Question: Evaluation of the efficacy of psychological interventions for healthy eating and weight loss in individuals with psychosis.

Background: Despite increasing evidence to suggest a healthy diet is important for maintaining optimal health, eating a poor diet that is high in fat, sugar and salt; and low in vitamins, minerals and fibre is commonplace in society. The Government and media have attempted to educate the public regarding the benefits of a balanced diet that contains plenty of fruit and vegetables, emphasising the reported benefits in terms of reducing the risk of cancer, cardiovascular disease, diabetes and other illnesses. Moreover a healthy diet has been found to have a positive benefit on energy levels, mental health and social functioning.

Obesity is fast becoming a distinct problem in modern society as people opt for convenience foods over fresh produce. The psychological distress that may be caused by being overweight- for example poor body image, low self-esteem and reduced social functioning has led many individuals to seek help in reducing their weight. Dietary restriction and healthy eating programmes may help to achieve this and often incorporate psychological and social techniques when helping people to change their dietary habits. Little is known however about which interventions and methodologies are most beneficial in terms of both physical and mental health. This review aims to assess the efficacy of such interventions.

Objectives:

To ascertain the efficacy of psychological interventions in improving healthy eating and/or weight loss in individuals with psychosis and schizophrenia.

Search Strategy:

The following databases will be systematically searched:

PsychINFO

EMBASE

MEDLINE

CINAHL

EBM Reviews (Cochrane DSR, ACP Journal Club, DARE and CCTR)

PubMed

Handsearches will be conducted in key journals (Nutrition, Obesity Research, Journal of Health Psychology) and reference lists of articles were checked.

Search Terms:

The following search terms were used to identify relevant articles for the review:

Group 1	Group 2	Group 3
Psychol\$	Diet\$	Psychosis
Therap\$	Food	Psychotic
Motivational	Eating	Schizophreni\$
interview\$		
Psychoeducation\$	Fruit	Psychose\$
Psychosocial	Vegetable	

CBT	Weight
Counselling	Body image
Reinforcement	Nutrition\$
Behaviour	
modification	
Biofeedback	
Cue exposure	
Health promotion	
Self monitoring	
Reality orientation	
Relaxation	
Self help	
Stress management	

Study Selection & Exclusion Criteria:

Studies were included in the review if they met the following criteria:

- (i) Participants with a diagnosis of schizophrenia, schizoaffective disorder, schizophreniform disorder or psychosis.
- (ii) Included an intervention with a specific psychological component. For example psycho-education, cognitive behavioural therapy (CBT), behavioural therapy, goal setting, stress management, motivational interviewing, psychiatric rehabilitation, skills training and specialised counselling.
- (iii) The focus of the intervention was either to improve healthy eating or weight management.

Publications will be excluded if they include other psychiatric illnesses such as bipolar disorder or if they do not assess weight or dietary change as an outcome, for example if they only looked at a change in nutritional knowledge. Publications will not be included if they are reviews, or if they include standard nutritional or dietary advice only, without the inclusion of a psychological component.

Study Design:

Due to the relatively limited amount of research in this area, studies with all types of research design will be included, however the findings of those with the most robust design (e.g. Randomised Controlled Trials) will be clearly illustrated as such, taking precedence over those that are less so.

Search Procedure:

EE will select studies for the inclusion into the review and this will be second-rated by a nutritionist in the team.

Study Quality Assessment Checklists and Procedures:

A data extraction form will be used to assess the quality of the studies that are to be included. This will be based on the 'Criteria for the methodological assessment of systematic review publications form' (Bradshaw, Lovell & Harris, 2005) (see form below):

Data Extraction Form

Draft

1

Evaluation of the efficacy of psychological interventions for healthy eating and weight loss in psychosis and schizophrenia

General Information

Date of extraction:

Study reference:

Author contact details:

Identification number in systematic review:

Notes:

Study Characteristics

Verification of study eligibility

Intervention/Outcome

Methodological Quality of Study

Study Design

Study sample and selection

Illness / condition

Content

Mode of delivery

Intervention

Type of Intervention

Number of condition groups

Duration of intervention

Analysis

Quantitative/ qualitative analyses used

Is it appropriate?

Is it correctly performed and interpreted?

Attrition rate

Results/ Outcomes

Baseline measurements

After interventions measurements

Significant results / Outcomes

Research Article for the Systematic Review

‘Weight a minute’: The lack of psychological interventions for improved nutrition as well as weight loss, in individuals’ with Schizophrenia, Schizo-Affective Disorder and First Episode Psychosis. A systematic review.

Abstract

Background: As a result of general poor diets and anti-psychotic related weight gain, there is a need to provide interventions that target healthy eating for mental and physical health in people with schizophrenia, schizo-affective disorder and first episode psychosis.

Aims: To review the efficacy of psychological interventions for improving healthy eating and weight management in this clinical group.

Method: A systematic search strategy was conducted of key databases for articles containing specified search terms, and published between January 1997 and December 2007.

Results: Nine studies met the inclusion criteria, however they all focused on weight management as the primary outcome rather than healthy eating. The most effective interventions were multi-modal and tailored, utilising motivational interviewing techniques.

Conclusions: When considering the growing evidence to suggest a relationship between nutrition and mental, as well as physical health, it is interesting to find an absence of studies specifically aimed at improving healthy eating for individuals of a normal weight as well as those who are overweight. Psychological techniques are important for eliciting improved nutrition as well as weight loss, and future studies should therefore incorporate this.

Declaration of Interest: None

Key words: Schizophrenia, Psychosis, Motivational Interviewing, Weight, Diet

Introduction

Patients with schizophrenia tend to have substandard diets compared to the general population, and higher levels of obesity (Peet, 2004). A poor diet is associated with both mental and physical ill-health. The latter can occur directly, as in the case of anaemia, which is due to deficits in levels of iron, and diabetes due to excess sugar intake; or indirectly due to the co-morbidities associated with weight gain and obesity. To some extent this may explain the higher rates of diabetes, coronary heart disease and hypertension that account for the reduced life expectancy and increased mortality in this clinical group (Ryan & Thakore, 2002). Indeed, most premature deaths are due to physical illnesses rather than suicide and accidental death associated with the psychiatric condition (Brown, 1997). It is not clear whether a poor diet precedes or follows the onset of illness; however, alongside a greater prevalence of smoking and a lack of exercise (Strassnig *et al.*, 2006), risks to physical health are high and often neglected, with treatment solely focused on mental health (Roberts *et al.*, 2007). There is a need therefore to encourage dietary improvements in psychiatric populations as a therapeutic measure.

Stokes and Peet (2004) found that patient's diets were significantly higher in sugar, which was negatively correlated with the severity of schizophrenic symptoms. In the same study, these authors also found that the sugar consumption was variable depending on the antipsychotic agent, with Clozapine being the worst. In schizophrenia and other

forms of psychosis it appears that weight gain is not only due to a poor diet, but is also a side-effect of some anti-psychotic medication (Taylor & McAskill, 2000). The new generation of 'atypical' antipsychotics have shown therapeutic efficacy in reducing the symptoms of psychosis, with a lower risk of extrapyramidal symptoms. However some can result in additional side effects such as an increased risk of developing cardiovascular disease (O'Brien & Oyebode, 2003) and sexual dysfunction (Haefliger & Bonsack, 2006). Other side effects include metabolic abnormalities associated with diabetes (Virkkunen *et al.*, 2002) and weight gain (Russell & Mackell, 2001) that may result in obesity. It is not clear exactly how antipsychotic weight gain can occur, however there appears to be a hormonal interaction (Ananth *et al.*, 2004), leading to or coupled with an increase in appetite (Elman *et al.*, 2006). Conversely, the literature also suggests that a reduction in basal energy expenditure and less physical activity may account for the weight gain.

There is increasing evidence to suggest that the nutritional value of an individual's diet impacts significantly on their mental as well as physical health (Benton & Donohoe, 1999). More specifically a balanced diet high in beneficial nutrients, such as omega-3 fatty acids (Lee *et al.*, 2006; Peet & Stokes, 2005) and antioxidant vitamins C and E (Arvindakshan *et al.*, 2003), has been linked to both the prevention and amelioration of symptoms in psychiatric illnesses such as depression and schizophrenia.

Consequently, individuals with psychosis may be at a high risk of physical ill health due to their initial poor diet but also the effects of the medication directly and indirectly by means of weight gain. In conjunction with this, their mental health is likely to be affected if they consume insufficient nutrients. Hence interventions are required that monitor nutritional consumption rather than calorific intake, considering healthy eating

and not just weight loss per se. Such interventions are important in economic terms as they can help to reduce morbidity, mortality and improve the individuals' quality of life with regard to body image, self esteem and social functioning. Adherence to medication in individuals is often low due to the perceived side-effects of weight gain (Chue & Cheung, 2004). Hence it is important to consider how interventions that target weight management can attempt to overcome this issue for the purpose of more effectively managing mental health.

There may be numerous perceived barriers to eating a healthy diet that are especially pronounced for individuals experiencing psychosis. The nature of the clinical group, their care needs, financial constraints and day-to-day management of symptoms can make even the smallest of lifestyle changes complex. Therefore interventions that are tailored to the specific needs of the individual and include a psychological or psychosocial component may be more effective in the long term (Shaw *et al.*, 2005).

Previous reviews assessing studies with this clinical group (Alvarez-Jimenez *et al.*, 2008; Faulkner *et al.*, 2003; Faulkner *et al.*, 2007; Ganguli, 2007; Loh *et al.*, 2006; Sharpe & Hills, 2003; Wernecke *et al.*, 2003) have included only interventions aimed at promoting weight management and loss. Therefore they do not consider studies whereby the principle aim is also optimising healthy eating for non weight-related physical and mental health and neglect individuals who may not need to lose weight, but for whom their diets remain poor. In a previous general review of healthy living interventions for people with schizophrenia (Bradshaw *et al.*, 2005) the authors include one study that focused on providing nutritional education for improved diet, but the reliability and validity of the study was questioned. With the growing literature base regarding links between diet and mental health, this review aims to add to the evidence

base by establishing whether additional studies focusing on improved healthy eating as the primary outcome have been conducted in recent years.

In addition, most of the previous reviews have included other psychiatric illnesses such as bipolar disorder and personality disorder whose needs, medication, care and experiences are likely to differ from those with schizophrenia, schizo-affective disorder and first episode psychosis. Consequently, there remains a need to review specifically psychological interventions that incorporate healthy eating as well as weight loss, and that look at the specific needs of this clinical group only.

Aim: To ascertain the existence and efficacy of psychological interventions in improving healthy eating and/or weight loss.

Methods

Search Strategy

The following electronic databases were systematically searched for relevant articles published between January 1997 and December 2007: PsychINFO, EMBASE, MEDLINE, Cumulative Index to Nursing & Allied Health Literature (CINAHL), Allied and Complementary Medicine Database (AMED) and EBM Reviews (Cochrane DSR, ACP Journal Club, DARE and CCTR). Hand-searches were also conducted within key journals, the World-Wide Web was searched via key search engines, and reference lists for extracted articles were also examined.

Search Criteria

The search criteria included 3 groups of search terms with truncation: those related to psychosis (for example 'schizophreni\$' and 'psychos\$'); those related to healthy eating and weight loss (for example 'diet\$', 'food'), and those related to psychological interventions (for example 'Psychol\$', 'Therap\$'). Where necessary Boolean logic and thesaurus mapping were employed. Each column of search terms was combined using the 'OR' strategy, and all three combinations of terms were subsequently combined with the 'AND' strategy. The search was also limited to articles published in English that included abstracts.

Study Selection Criteria

Studies were included in the review if they met the following criteria:

- (iv) Participants had a diagnosis of schizophrenia, schizoaffective disorder or first episode psychosis.
- (v) An intervention with a specific psychological component was included, for example: psycho-education, cognitive behavioural therapy (CBT), behavioural therapy, goal setting, stress management, motivational interviewing, psychiatric rehabilitation, skills training and specialised counselling.
- (vi) The focus of the intervention was either to improve healthy eating or weight management.

Exclusion criteria

Publications were excluded if they included other psychiatric illnesses such as bipolar disorder or if they did not assess weight or dietary change as an outcome, for example if they only looked at a change in nutritional knowledge. Publications were also excluded

if they were reviews themselves, or included standard nutritional or dietary advice only without the inclusion of a psychological component.

Study Design

Although the aim was to consider Randomised Controlled trials only, following a preliminary brief search of the literature, it appeared that there were relatively few studies of this type. Therefore studies with mixed methodologies were included.

Search Procedure

Studies for inclusion in the review were selected by EE and this was second-rated by a nutritionist, KW to ensure inter-rater reliability.

Study Quality Assessment Checklists and Procedures

A data extraction form was used to clearly summarise the rationale for inclusion or exclusion and the quality of the study. This was based on a previously published pro forma (Bradshaw *et al.*, 2005). The assessment criteria included quality of design, randomisation procedures, use of appropriate controls, whether baseline comparisons were carried out, sample size, loss to follow-up, blind data collection, relevant outcome measures, reliability and validity of tools and data collection and the use of appropriate statistical analyses and power.

Results

The database searches produced a total of 3811 results which were individually assessed in terms of their appropriateness for inclusion. It was agreed that further narrowing of the search strategy would affect the reliability of the review. Initially, the majority of studies were excluded on the grounds that they did not refer to individuals with psychosis, schizophrenia or schizoaffective disorder; they did not include a specific psychological intervention, they referred to biological processes only or to service development and policy.

At the first stage of analysis 24 articles were extracted. On discussion with a fellow rater 15 further studies were removed, as they included other diagnostic criteria such as personality disorder (Brown & Chan, 2006), diabetes (McKibbin *et al.*, 2006) bipolar disorder (Lloyd *et al.*, 2003; Milano *et al.*, 2007; Umbricht *et al.*, 2001;), bipolar disorder and depression (Evans *et al.*, 2005) and general severe mental illness (Khazaal *et al.*, 2007; Pendlebury *et al.*, 2007). Finally one study was removed as it referred to a conference presentation for which a full article was not available (Ganguli & Brar, 2005).

A total of 9 publications were finally included in the systematic review (see Table 1, p.26). These included randomised controlled trials (1,2,5,6,8), a quasi-experimental design (7), a multiple baseline design (9), a case-control design (4), and a pre- post experimental design that did not include a control group (3). Almost all of the studies were based in inpatient settings and the age range was substantial, from 15 to 65 years. Seven of the 9 studies also incorporated an exercise component. The number of participants taking part ranged from 17 to 72, with a mean age of 48 years. There was

no indication in any of the studies regarding whether or not medication was changed in response to weight gain. All the control group participants came from the same clinical sample as the intervention groups. Interventions evaluated included behaviour therapy (1,2,8,9), counselling (3), motivational interviewing including assessment of the individual's motivation to change their dietary behaviour (4), CBT (5,6) and psycho-education (7,9). The interventions ranged in length from 12 to 52 weeks, with a mean duration of 20.9 weeks.

Healthy Eating

All the studies focused on weight loss as the primary outcome, rather than healthy dietary practices.

Weight Management

(i) Between-group differences

The findings revealed that all nine interventions resulted in greater weight loss or less weight gain than the control groups. However this was statistically significant in only five of the studies (2,4,6,7,8). In the remaining four, one study was not statistically significant (1), one did not include a control group to enable comparison but did show within-subject weight loss following the intervention (3), and one indicated a reduction in BMI when comparing pre- and post intervention periods (9). Finally, one study did not have sufficient power due to a low sample size of 17 (5).

(ii) Within-group differences

In terms of change in weight pre- and post intervention, 6 of the studies reported statistically significant reductions in weight following the intervention and at follow-up

(1,3,4,6,8,9). Two studies could not be included in this comparison as they referred to the prevention of *weight gain* which was compared with a control group (2,7). As previously stated, one study did not have sufficient power to establish significance (5).

The interventions that were most effective were modular in approach and utilised motivational interviewing techniques. For example Alvarez-Jiminez and colleagues (2006) (2) incorporated several treatment modules including 'Engagement and Individual assessment' (2 sessions); 'Psycho-education' (2 sessions); 'Dietary specialised counselling' (1 to 4 sessions); 'Exercise program' (1 to 4 sessions) and 'Behaviour therapy' including MI (1 to 4 sessions). In the intervention developed by Menza and colleagues (2004) (4) implemented behavioural strategies which included self monitoring, stress management, motivational interviewing techniques, stimulus control and problem solving over a 52 week period. Again this approach encouraged autonomy and pro-active involvement from the participants and was individually tailored to their needs. Additional strategies utilised in the successful interventions included goal setting and record keeping, cue elimination, portion control and recognising hunger (8) as well as assertiveness training and relapse prevention (9).

Some studies reported the degree of weight loss, others weight gain, and occasionally both, wherein the intervention group lost weight and the control group gained weight. One possible explanation for the findings may be that some of the interventions took place early in treatment when either the illness or medication resulted in weight gain, therefore leading to less weight gain, or weight maintenance rather than loss. The largest difference in mean weight loss reported between the intervention and control group was 6.2kg [13.64lbs] (4), and the least was 0.9kg [1.98lbs] (1).

Discussion

This systematic review suggests that psychological interventions for weight management in people with schizophrenia, schizoaffective disorder or first episode psychosis can be effective, at least in terms of short-term outcomes. Interestingly however, all of the publications reviewed focused on weight management as the primary target outcome, as opposed to improved diet for non obesity-related physical and mental health. In the majority of cases, only service users deemed to be in need of weight loss, or at risk of obesity were included, therefore excluding individuals that would still benefit from a healthy eating intervention for mental and physical health, but are of a 'normal weight'. Hence the key finding in this review is the significant absence of research that considers improving diet for general health as opposed to just for the purposes of weight loss. Behaviour change in general is not an easy process and therefore dietary change, for weight loss or improved nutrition alone, would benefit from the use of psychological techniques also, particularly for this clinical group. Therefore, in terms of the most effective interventions, the findings of the studies extracted can be considered in terms of their application in this context also, where previous research has failed to focus.

The most effective type of intervention employed for weight loss appears to have been the multi-modal intervention with motivational interviewing (MI) (Menza *et al.*, 2004). This intervention ascertained an individual's 'Stage of Change' which provides useful information regarding their motivation and intention to act, including whether this is influenced by previous attempts to change. This can facilitate appropriately pitched interventions salient to the position of the individual. MI enhances an individual's readiness to change and incorporates non-confrontational and empathic counselling

techniques to consider the barriers, benefits and strategies towards making behavioural changes. Key concepts include developing discrepancy to establish the differences between current and desired behaviour and considering the benefits and costs of change. Equally 'rolling with resistance' enables the therapist to accept the likelihood of resistance to change and encourages the individual to feel empowered to make changes based on goals that are salient and realistic for them (Miller & Rollnick, 2002).

There appeared to be little difference between the CBT interventions compared with the purely behavioural approaches, which produced less successful outcomes. This could be explained in a number of ways. Firstly, unlike the multi-modal design, the cognitive-behavioural and behavioural approaches may fail to provide a suitably tailored element that considers motivation for the individual. Equally, the focus of psycho-education and MI was to offer a modular approach in multiple formats. MI encourages service users to explore their ambivalence about change in a non-confrontational and empathic manner. Whereas CBT and behavioural models may focus on challenging and ultimately altering negative thoughts and behaviours, MI encourages reflection and the generation of problem-solving strategies, emphasising personal choice and control in the process. Hence it uses many of the tenets of person-centred counselling (Rogers, 1951), for example reflective listening skills on the part of the clinician.

Good participant engagement, and compliance with similar interventions are possible in this clinical sample (Brar *et al.*, 2005; Weber & Wyne, 2006). This indicates that levels of motivation may be similar to that of the general population, however the efficacy of interventions may vary at different stages of an individual's illness and treatment (Wernecke *et al.*, 2003). For example, those experiencing a first episode of psychosis

may begin to associate weight gain with the anti-psychotics to the extent that they are not compliant with medication. Equally they may be too ill to adhere to a suitable diet or exercise plan, and are likely to have stable habits that inhibit their compliance to the intervention.

Limitations

There are a number of potential limitations with the studies. Firstly the majority include patients from inpatient settings where diet can be controlled, or at least more easily monitored, and this brings into question the ecological validity of generalising the intervention to real-world settings. Equally, exercise regimes can be supported and practical sessions arranged more readily than in community settings where it is the service user's responsibility to initiate exercise and to buy and prepare their food. It was initially intended that all studies that included exercise interventions would be excluded, however this left only two publications (5,7). As a result, the inclusion of both an exercise and dietary component makes it difficult to ascertain which aspect of the intervention is most effective as both may lead to weight loss.

The large variation in the age of participants makes it difficult to compare the effect of age on weight in terms of activity levels, metabolism and motivation. For example it may be easier to change eating habits in a younger group who are just beginning to become independent and who cook for themselves. Equally there will likely be some variation in terms of the length of illness and treatment type, such that some patients may have received treatment for a longer period than others and therefore weight gain may be more established than those just beginning their care.

In terms of the methodology used, the use of self-rating food diaries may result in bias if service users found it difficult to be honest or were concerned with pleasing the therapist. Equally, these studies do not always indicate the exact dietary changes that were recommended in order to help patients lose weight. For example they may eat a diet that is high in saturated fat and refined sugars and by reducing their intake of these foods they lose weight, however their diet remains unhealthy. Furthermore, it is not clear in what ways the participants understood the amounts and variety of foods they should be eating. It is important that interventions consider the extent to which service users are able to put the information they receive into practice.

One of the most significant methodological limitations is the lack of long-term follow up in these studies. Most research regarding weight loss and obesity in the general population suggests that many dietary interventions produce positive outcomes in the short-term, but these effects do not last in the long-term and that an individual's weight may return to what it was before the intervention, or in some cases more weight may be gained (Mann *et al.*, 2007).

The chosen outcome measures of weight loss or gain are not always helpful, as despite statistical significance they may fail to produce clinically significant results in terms of meaningful weight loss for improved health. Research suggests that even small degrees of weight loss in moderately or severely obese individuals is associated with health benefits (Brar *et al.*, 2005; Pi-Sunyer, 1993). The key question therefore is what degree of weight loss is significant? Previous research (Weber & Wyne, 2006) suggests as little as a 5% increase in weight significantly increases the chances of co-morbidity. As much as a 200% greater risk may be evident (Everson *et al.*, 1998), which suggests that

conversely a decrease in weight of as little as 5% would significantly decrease these risks. This supports the notion that small amounts of weight loss or prevention of weight gain can have far-reaching effects on physical health (Goldstein, 1992).

Future Interventions

At the beginning of treatment for First Episode Psychosis, anti-psychotic induced weight gain is likely to be at its greatest. Interventions should focus more on reducing the amount of weight gained, rather than actual weight loss per se, referring to 'weight management' rather than 'weight loss', offering a distinct intervention (Bushe *et al.*, 2005). Encouraging healthy eating per se is important, however some individuals in mental health services may also benefit from a tailored intervention consisting of a nutritional assessment, followed by guidance regarding their optimal nutritional needs.

A review of the research suggests that a modular tailored approach is most effective for the general population, and this is likely to be even more true of this clinical group who may have specific needs in relation to their illness and lifestyle (Green *et al.*, 2000).

Conclusion

In conclusion, future interventions need to consider tailored healthy eating and nutrient-specific approaches in addition to weight management for this clinical population, utilising psychological techniques and considering the optimal point during treatment at which to intervene. Focus must be given to specific individual needs due to the nature of the illness. In the authors' experience, service users often fail to put into practice the advice offered by a nutritionist, and therefore establishing the efficacy of psychological interventions that address this issue is important. The most successful interventions

appear to be those that adopt a modular approach and utilise motivational interviewing techniques. However the reliability of the research designs utilised in this review is questionable due to the fact that some of the studies did not employ a comparison group, nor did they randomly assign participants. Hence this suggests the need for further randomised controlled trials to substantiate the effectiveness of these interventions.

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Table 1. Results of the review

Authors	Participants	Design	Intervention	Length of intervention (weeks)	Mean weight loss/gain (kg/lbs)	Mean change in BMI (kg/m ²)	P-values for between-group differences in weight loss/gain	P-values for within-group differences over time in weight loss/gain	Conclusion
1. Brar et al. (2005)	72 outpatients & inpatients. BMI >26 kg/m ² . 18- 65 years.	Open-label, randomised trial, rater-blind	(a) Manual driven behaviour therapy incl. Diet & exercise (b) Usual clinical care	14 (20 sessions)	(a) -2.0kg [-4.4lbs] (b) -1.1kg [-2.42lbs]	(a) -0.9 (b) -0.5	n.s	(a) P=.005 (b) P=.042	Statistically significant weight loss reported in both groups, but behavioural therapy did not produce statistically greater weight loss than usual clinical care.
2. Alvarez-Jimenez et al. (2006)	61 inpatients. 15 - 60 years.	Single blind Randomised Controlled Trial	(a) Early modular behavioural intervention – diet & exercise (b) Routine care	12 (7 - 16 sessions)	(a) +4.1kg [9.02lbs] (b) +6.9kg [15.18lbs]	(a) +1.4 (b) +2.39	P<.01	Not reported because weight was gained	Weight gain expected as early intervention when effects of meds begun. Significantly less weight gain in the behavioural intervention.

Table 1. (continued)

Authors	Participants	Design	Intervention	Length of intervention (weeks)	Mean weight loss/gain (kg/lbs)	Mean change in BMI (kg/m ²)	P-values for between-group differences in weight loss/gain	P-values for within-group differences over time in weight loss/gain	Conclusion
3. Centorrino et al. (2006)	17 (average age of 40.5 +/- 8.5 years)	Pre-post experimental design. No control group.	(a) Exercise and diet counselling in group settings	24	(a) -6.0kg [-13.2lbs]	(a) -2.1	n/a	(a) p= 0.0008	Significant within-subject weight loss. However no control group, small sample size, and uses a program designed for the general population
4. Menza et al. (2004)	51 Mean age: 42.6yrs (intervention); 47.2yrs (usual care)	Case-control design	(a) Multimodal weight control including: Stages of Change, Mot. Interviewing (MI) & exercise (b) Usual care group	52	(a) -3.0kg [-6.6lbs] (b) +3.2kg [7.04lbs]	(a) - 1.74 (-5.1%) (b) +2.6 (+8.1%)	P<.01	(a) P<.02 (b) P<.02	Statistically significant within and between subjects effects in terms of weight

Table 1. (continued)

Authors	Participants	Design	Intervention	Length of intervention (weeks)	Mean weight loss/gain (kg/lbs)	Mean change in BMI (kg/m ²)	P-values for between-group differences in weight loss/gain	P-values for within-group differences over time in weight loss/gain	Conclusion
5. Weber et al. (2006)	17 18- 65 years	Randomised placebo controlled pilot study	(a) CBT (b) Treatment as usual (TAU)	16	(a) -5.4lbs (-2.9%) (b) -1.3lb (-0.8%)	(a) -2.9% (b) -0.8%	Not conducted due to lack of power	Not conducted due to lack of power	Lack of power to establish significant effects but intervention appears effective based on actual weight loss.
6. Kwon et al. (2006)	48 19-64 years	Randomised Controlled Trial 2:1 Intervention to control	(a) CBT for diet and exercise management (b) Treatment as usual (TAU)	12	(a) -3.94kg [8.67lbs] (b) -1.48kg [3.26lbs]	(a) -1.50 (b) -0.59	P<.006	P<.001	Statistically significant between and within subject effects of the intervention on weight loss.

Table 1. (continued)

Authors	Participants	Design	Intervention	Length of intervention (weeks)	Mean weight loss/gain (kg/lbs)	Mean change in BMI (kg/m ²)	P-values for between-group differences in weight loss/gain	P-values for within-group differences over time in weight loss/gain	Conclusion
7. Littrell et al. (2003)	70	Quasi-experimental	(a) Weekly psycho-education classes: 'The Solutions for wellness modules' (b) Standard care group	16	(a) + 0.81lbs [0.04kg] (b) + 7.17lbs [3.25kg]	(a) +0.13 (b) +1.01	P=.005 (at 4 months); p=.0007 at 6 months	(a) No significant change in weight over time (b) Significant increases in weight over time (p<.0001)	The intervention led to the successful prevention of weight gain.

Table 1. (continued)

Authors	Participants	Design	Intervention	Length of intervention (weeks)	Mean weight loss/gain (kg/lbs)	Mean change in BMI (kg/m ²)	P-values for between-group differences in weight loss/gain	P-values for within-group differences over time in weight loss/gain	Conclusion
8. Jean-Baptiste et al. (2007)	14 outpatients. BMI >30kg/m	Pilot Randomised Controlled Trial	(a) Weekly group behavioural intervention (b) Control group became intervention group after the intervention period & vice versa. Diet & exercise	16	(a) 6.4 lbs [2.90kg] (b) 5.9 lbs [2.68kg]	Not reported	P=.026	When (a) and (b) combined: From week 1-16, p=.025. From week 1 to 6 months, p=.028. From 16 weeks to 6 months= n.s.	Statistically greater weight loss in the intervention group. When the effects of both groups are combined when both completed the intervention, statistically significant differences over time were found between week 1 and week 16, 1 week and 6 months, however not between week 16 and 6 months. Therefore weight loss decreased over time.

Table 1. (continued)

Authors	Participants	Design	Intervention	Length of intervention (weeks)	Mean weight loss/gain (kg/lbs)	Mean change in BMI (kg/m ²)	P-values for between-group differences in weight loss/gain	P-values for within-group differences over time in weight loss/gain	Conclusion
9. Kalarchian et al. 2005	35 outpatients. Mean age 42.0 years.	Multiple baseline design	(a) Weekly group sessions of psycho-education and behavioural therapy	12 weekly and 2 biweekly booster sessions	(a) -5.04 lbs [2.29kg] at end of intervention; -7.14 lbs [3.25kg] at 3 months post treatment	Not reported but based on graph: -1.07 after treatment and boosters; -0.82 after post-treatment	N/A	P= .001	Significant weight loss and BMI overtime. No demographic differences between completers and non-completers

Systematic Review: Reflective Evaluation

Overview of this report

The aim of this report is to provide a reflective summary of my experience of conducting the systematic review, including concerns and limitations that were not appropriate to include in the paper that was submitted for publication. This account enables a more honest consideration of the process and a consideration of how I could improve undertaking the process in the future.

Initial concerns

At the beginning of the review my principal concern was that there would be insufficient studies to make a review worthwhile. Equally I was uncertain as to whether there would be enough studies looking only at this clinical group who have specific and individual needs, and equally whether psychological techniques were used rather than medication. Similarly I wondered whether the studies would be clear about the psychological technique employed, how it was used, fidelity to the model and therefore provide enough information for replication. However, despite these concerns I felt that this was a highly under researched area and therefore a more specific establishment of the evidence base was required.

The search procedure

Boolean logic was also used to search for articles, and although this helped to reduce the number of search terms entered, it also created difficulties. For example, all words associated with 'psychosis' would require 'psycho\$' as they could include psychotic as well as psychosis. However this would open up to many terms that were not relevant

such as psychology or psychologist. Therefore it would have been easier to have simply entered all the possible words in full rather than using Boolean Logic in this instance.

Choosing papers

The process of deciding which papers to include was relatively difficult due to the sheer volume of papers extracted. As this number was in the thousands it was obviously necessary to consider whether there was a need to narrow the search with more specific search terms. However on careful deliberation it was clear that this would not be possible without biasing the results and potentially failing to extract papers that should be included. To ensure that the search terms were inclusive but specific enough, they were discussed with my supervisor at City University who agreed it would be difficult to narrow the search further. As a final precaution, a trainer in conducting systematic reviews at The University of Sheffield was consulted and he too agreed that no changes should be made at this stage, without losing the inclusiveness of the search. He also recommended that the search only included 'AND' and 'OR' combinations of terms rather than 'NOT' as apparently this is generally deemed to be less reliable in systematic reviews.

This left me with a substantial amount of abstract reading. Often it was clear that the paper had no relevance as despite the careful search terms used, animal studies, studies in different populations with completely irrelevant methodology and procedures were extracted. It was clear to me early on that the title alone of this task – '*Systematic Review*', negated a need to be organised. I quickly found that I was becoming confused with what I had and hadn't searched through on the databases this was a problem that needed to be overcome. As some of the databases regularly time you out of sessions, I found it useful to note the paper number down that I was up to at regular intervals so

that I could go back to this paper relatively easily should this happen. I also recognised the need to print off the abstracts that might be relevant and keep them in an organised manner, dividing those from different databases, and beginning to categorise. I also kept a log of the types of papers that were discarded. These tended to be due to the fact that they included the wrong client group, did not assess healthy eating, or did not include a psychological component. Equally many papers were reports rather than studies, discussions of policy or editorials.

Having searched through the numerous papers it was then necessary to obtain the full papers for them. Some were available on the net, others were sourced from hardcopies at The University of Sheffield, and others required inter library loan requests. On gaining the full text it was more easy to check specifics such as the study inclusion criteria and the methodology. Often it was unclear in the abstract whether a psychological technique had been used as such but this became more apparent on reading the method sections.

Study Quality Assessment Checklists and Procedures

Having read all the papers and removed those that were not relevant, I then re-read those for inclusion and made notes mainly regarding queries that I had about whether to include them. For example if they used the provision of information about nutrition and termed it 'psycho-education'. Discrepancies in my ideas about this were again discussed with a colleague to resolve the issue. A data extraction form was used to extract information for each study and to assess whether or not it should be included, and also the quality of the study. This was based on the 'Criteria for the methodological assessment of systematic review publications form' (Bradshaw, Lovell & Harris, 2005).

The assessment criteria included ascertaining the quality of design including whether participants were randomly assigned to groups, whether an appropriate control was used, whether baseline comparisons were carried out, sample size, loss to follow-up, blind data collection, relevant outcome measures, reliability and validity of tools and data collection and the use of appropriate statistical analysis and power. These forms were quite lengthy and actually seemed somewhat repetitive and included information that was not used in the end to evaluate the study. Hence in the future I would choose a more succinct list of points to make this process more straightforward.

Limitations with the papers extracted

There are a number of potential limitations with the studies extracted that should be considered in terms of the design of future interventions and the methodology employed for their evaluation. Firstly the majority of the studies included patients from inpatient settings whereby diet may be controlled, or at least more easily monitored, questioning the ecological validity of replicating the intervention in real-world settings. Equally exercise regimes can be supported and practical sessions arranged more readily than in community settings where it is the service user's responsibility to initiate exercise and to buy and prepare their food. The inclusion of both an exercise and dietary component itself makes it difficult therefore to ascertain which aspect of the intervention is most effective if both may lead to weight loss.

The sample sizes of the studies also varied in age quite substantially and therefore it is difficult to compare the effect of age on weight in terms of activity levels, metabolism and motivation. For example it may be easier to change eating habits in a younger group who are just beginning to become independent and cook for themselves. Equally there

will likely be some variation in terms of the length of illness and treatment type, such that some patients may have received treatment for longer than others and therefore weight gain may be more established than those just beginning their care.

Issues with publication

One problem that I encountered with this competency was getting the systematic review accepted for publication in a peer reviewed journal. It was first submitted to The British Journal of Health Psychology, however they unfortunately felt that it related to a 'clinical psychology' subject. I was then submitted to Schizophrenia Research and then the Journal of Mental Health, but the first rejected it as they said it was not as up-to-date as it could be, and having included papers from 2007 in the review to overcome this, it was then rejected for not adding to the evidence base. The latter felt that there were a number of reviews that had been done and that this added nothing new. However they had failed to see the key finding to come out of this work, that all the previous reviews and studies for that matter had only looked at psychological interventions for weight loss, and therefore failed to provide a service for people of a normal weight, who still consumed an unhealthy diet. Equally, most of the interventions focussed on calorie restriction that undoubtedly does not lead to optimal nutrition. Therefore in the latest submission to Psychiatric Services, that I await to hear from, I aimed to make it very clear that the review was unique and had an important key finding. A new catchier title aimed to make this point distinctly.

Evaluation of my learning and research competence development

This is the second systematic review that I have undertaken. The first having taken place in a previous employment, looked at psychosocial interventions for young adult

survivors of childhood cancer. I did however feel that this competence enabled me to learn a great deal and I certainly took less time to complete the review despite extracting more papers than previously. This was in part due to the recognition for better organisation and also the prior knowledge that databases can 'time out' or become unavailable and thus should be saved and a continual record of what you have checked kept. I recall having to start again on more than one occasion in my previous attempt but luckily this was averted in this instance. I also feel that because I had a genuine interest in the topic, that reading the endless abstracts was actually quite enjoyable, not to mention amusing as I found papers on very obscure topics indeed! I think I did lack a little confidence at the beginning with regards making a choice about the search terms. Therefore although I felt confident in my chosen topic area, the search strategy and how best to perform it remained an initial concern. Commencing this competence early in my training was invaluable as I had attended the systematic review workshop around the same time, and therefore the use of Boolean logic and thesaurus mapping was easily recalled. I was also fortunate enough to be able to attend a one-day workshop as a seconded member of staff at The University of Sheffield. This actually included one-to-one training in doing systematic reviews, and although took place prior to my choice of topic, the information pack was very helpful and enabled me to carefully plan the task and timeframe.

In conclusion, although time-consuming, I feel confident that systematic reviews can be relatively pain free if sufficient thought is taken in the planning stages, a reasonable initial review of the literature review is made, and that the process is conducted in an organised manner.

cash

Disc One: Win, Place And Show -- The Hits

Disc: 1

1. I Walk The Line
2. There You Go
3. House Of The Blues
4. Ballad Of A Teenage Queen
5. Guess Things Happen That Way
6. The Ways Of A Woman To Love
7. Don't Take Your Guns To Town
8. Ring Of Fire
9. The Matador
10. Understand Your Man
11. The Ballad Of Ira Hayes
12. Orange Blossum Special
13. The One On The Right Is On The Left
14. Rosanna's Going Wild
15. Folsom Prison Blues
16. Daddy Sang Bass
17. A Boy Named Sue
18. What Is Truth
19. Sunday Mornin' Comin' Down
20. Flesh And Blood
21. Man In Black
22. A Thing Called Love
23. Kate
24. Oney
25. Any Old Wind That Blows
26. One Piece At A Time
27. (Ghost) Riders In The Sky

Disc two: Old Favourites And New

Disc: 2

1. Hey Porter
2. Cry, Cry, Cry
3. Luther Played The Boogie
4. Get Rhythm
5. Give My Love To Rose
6. I Was There When It Happened
7. Big River
8. I Still Miss Someone
9. Pickin' Time
10. The Man On The Hill
11. Five Feet And Rising
12. Tennessee Flat Top Box
13. i Got Stripes
14. Troublesome Waters
15. The Long Black Veil
16. Dark As A Dungeon
17. The Wall
18. 25 Minutes To Go
19. Cocaine Blues
20. Doin' My Time
21. I Will Rock And Roll with You
22. Without Love
23. The Big Light
24. Highway Patrolman
25. I'm Never Gonna Roam Again
26. When I'm Gray
27. Forever Young

Disc Three: The Great American Songbook

Disc: 3

1. The Wreck Of The Old 97
2. Rock Island Line

cash

3. Good Night Irene
4. Goodbye, Little Darlin'
5. Born To Love
6. Walking The Blues
7. Frankie's Man, Johnny
8. Delia's Gone
9. In The Jailhouse Now
10. Waiting For A Train
11. Casey Jones
12. The Legend Of John Henry's Hammer
13. I've Been Working On The Railroad
14. Sweet Betsy From Pike
15. The Streets Of Laredo
16. Bury Me Not On The Lone Prairie
17. Down In The Valley
18. Wabash Cannonball
19. The Great Speckle Bird
20. Wildwood Flower
21. Cotton Fields
22. Pick A Bale O' Cotton
23. Old Shep
24. I'll Be All Smiles Tonight
25. I'm So Lonesome I Could Cry
26. Time Changes Everything

Disc Four: Family And Friends

Disc: 4

1. Keep In The Sunny Side
2. Diamonds In The Rough
3. (There'll Be) Peace In The Valley
4. Were You There (When They Crucified My Lord)
5. Another Man Done Good
6. Pick The Wildwood Flower
7. Jackson
8. If I Were A Carpenter
9. Girl From The North Country
10. One More Ride
11. You Can't Beat Jesus Christ
12. There Ain't No Good Chain Gang
13. We Ought To Be Ashamed
14. Crazy Old Soldier
15. Silver Haired Daddy Of Mine
16. Who's Gene Autry
17. The Night Hank Williams Came To Town
18. I Walk The Line (Revisited)
19. Highwayman
20. The Wanderer
21. September When It Comes
22. Tears In The Holston River
23. Far Side Banks Of Jordan
24. It Takes One To Know Me

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