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Approaches to exploring and measuring suicidality in pregnant and postnatal women

Thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

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School of Health and Medical Sciences

City St George's, University of London

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List of abbreviations

CFA	Confirmatory Factor Analysis
GP	General Practitioner
HCPs	Healthcare Practitioners
HICs	High-income countries
IERBs	Institutional Ethical Review Boards
IPA	Interpretative phenomenological analysis
IRT	Item Response Theory
LMICs	Low- and middle-income countries
MBRRACE-UK	Mothers and Babies: Reducing Risk through Audits and Confidential Enquires across the UK
NGT	Nominal group technique
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
OCD	Obsessive-compulsive disorder
PMH	Perinatal mental health
PTSD	Post-traumatic stress disorder
RCT	Randomised control trial
SHPS REC	School of Health and Psychological Sciences Research and Ethics Committee
SHTs	Self-harm thoughts
TFA	Theoretical Framework of Acceptability
UK	United Kingdom
USA	United States of America
VCSE	Voluntary, community and social enterprise

List of measures (and abbreviations)

BDI	Beck Depression Inventory
BDI-SF	Beck Depression Inventory Short-Form
BSSI	Beck Scale for Suicidal Ideation
CIDI	The World Mental Health (WMH) Survey Initiative Version of the World Health Organization (WHO) Composite International Diagnostic Interview
CIDI-V	The World Mental Health (WMH) Survey Initiative Version of the World Health Organization (WHO) Composite International Diagnostic Interview (computer version)
CIS-R	Clinical Interview Schedule-Revised
C-SSRS	Columbia-Suicide Severity Rating Scale
DIGS	Diagnostic Interview for Genetic Studies
eC-SSRS	The electronic Columbia-Suicide Severity Rating Scale
EPDS	Edinburgh Postnatal Depression Scale
GAD-2	Generalised Anxiety Scale-2
HRSD	The Hamilton Depression Rating Scale
IDAS	Inventory of Depression and Anxiety Symptoms
KMDRS	Koukopoulos Mixed Depression Rating Scale
MINI	MINI-International Neuropsychiatric Interview
MINI Kid	MINI-International Neuropsychiatric Interview for Children and Adolescents
MOODS-SR	Mood Spectrum Self-Report
-	Mothers of Preterm Babies Postpartum Depression Scale
-	Paykel Suicide Scale
PDSS	Postpartum Depression Screening Scale
PDSS SUI	Postpartum Depression Screening Scale, Suicidal Thoughts Subscale
PHQ-9	Patient Health Questionnaire-9
-	Plutchik Suicide Risk Scale
SBQ-R	Suicidal Behaviours Questionnaire-Revised
SCID	Structured Clinical Interview for DSM-IV disorders
SLPPDS	Sierra Leone Perinatal Psychological Distress Scale

SRQ-20	Self-Reporting Questionnare-20
Ultra-Short	Ultra-short Maternal Mental Health Screen
-	Whooley questions

COVID-19 impact statement

This statement is provided for the aid and benefit of future readers to summarise the impact of the COVID-19 pandemic on the scope, methodology, and research activity associated with this thesis. The academic standards for a research degree awarded by City St George's, University of London and for which this thesis is submitted remain the same regardless of this context.

This thesis research began in October 2019, shortly before the COVID-19 pandemic and subsequent national lockdowns in the UK. As a mother (to a then eight-year-old daughter) my research progress was significantly impacted by the pandemic as I was required to home-school my daughter for over nine months (between March to September 2020, and again from January to March 2021). I received extensions to my PhD candidature for this reason. Likewise, given the restrictions on conducting face-to-face research, and the uncertainty of safety protocols for conducting online interviews, the ethics applications and start dates for Studies 2 and 3 were also delayed. However, despite the easing of restrictions in 2021, I still decided to conduct the interviews for Studies 2 and 3 online or via the telephone, primarily due to there being a continued high prevalence of COVID-19 transmission in the community, and pregnant and postnatal women are high-risk for infection. Additional reasons for conducting interviews online or via the telephone are given in section 2.6.3 of this thesis.

The COVID-19 pandemic did not have any other significant impact upon the research conducted or the thesis aim, objectives and methods.

Declaration

Chapters 3 to 7 of this thesis consist of articles written for publication in peer-reviewed journals. The versions presented here are the final published manuscripts. All the articles are my own work, with guidance from my PhD supervisors. I conducted all data collection and data analysis, and I wrote the first draft of each article. I also led on all subsequent revisions, including those suggested during the peer-review process. Full references and author contributions are listed below:

Chapter 3 is published in the *Journal of Affective Disorders* as:

Dudeney, E., Coates, R., Ayers, S., & McCabe, R. (2023). Measures of suicidality in perinatal women: A systematic review. *Journal of Affective Disorders, 324*, 210-231. https://doi.org/10.1016/j.jad.2022.12.091

The author contributions are as follows: Elizabeth Dudeney and Rose Coates were responsible for conceptualisation of the study. Elizabeth Dudeney conducted the literature review, database searches, data extraction, quality assessment and synthesis of results. Rose Coates assisted with quality assessment. Elizabeth Dudeney wrote the first version of the protocol and manuscript. Rose Coates, Susan Ayers and Rose McCabe provided feedback on the protocol and manuscript draft and approved the final version.

Chapter 4 is published in *Frontiers in Psychiatry* as:

Dudeney, E., Coates, R., Ayers, S., & McCabe, R. (2024). Acceptability and content validity of suicidality screening items: A qualitative study with perinatal women. *Frontiers in Psychiatry, 15.* https://doi.org/10.3389/fpsyt.2024.1359076

The author contributions are as follows: Elizabeth Dudeney was responsible for conceptualisation of the study. Elizabeth Dudeney and Rose Coates developed the topic guide. Elizabeth Dudeney led and wrote the ethics application submission, with input from Rose Coates, Susan Ayers and Rose McCabe. Elizabeth Dudeney communicated with all participants, conducted all interviews, and transcribed all the data. Elizabeth Dudeney conducted the data coding and interpretation of findings, with support from Rose Coates. Elizabeth Dudeney wrote the first version of the manuscript. Rose Coates, Susan Ayers and Rose McCabe provided feedback on the manuscript draft and approved the final version.

Chapter 5 is published in *Women and Birth* as:

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The author contributions are as follows: Elizabeth Dudeney was responsible for conceptualisation of the study. Elizabeth Dudeney developed the topic guide, with support from Rose Meades (nee Coates). Elizabeth Dudeney led and wrote the ethics application submission, with input from Rose Meades, Susan Ayers and Rose McCabe. Elizabeth Dudeney communicated with all participants, conducted all interviews, and transcribed all the data. Elizabeth Dudeney conducted the initial coding and generation of themes. Elizabeth

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Dudeney, E., Meades, R., Ayers, S., & McCabe, R. (2025). Attitudes, experiences, and implications of asking about suicide during the perinatal period: A qualitative study with maternity healthcare practitioners. *Midwifery, 142.* https://doi.org/10.1016/j.midw.2025.104309

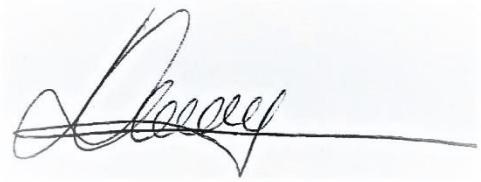
The author contributions are as follows: Elizabeth Dudeney was responsible for conceptualisation of the study. Elizabeth Dudeney developed the topic guide, with support from Rose Meades (nee Coates). Elizabeth Dudeney led and wrote the ethics application submission, with input from Rose Meades, Susan Ayers and Rose McCabe. Elizabeth Dudeney communicated with all participants, conducted all interviews, and transcribed all the data. Elizabeth Dudeney conducted the initial coding and generation of themes. Elizabeth Dudeney and Rose Meades further reviewed and refined the themes and the interpretation of findings. Elizabeth Dudeney wrote the first version of the manuscript. Rose Meades, Susan Ayers and Rose McCabe provided feedback on the manuscript draft and approved the final version.

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The author contributions are as follows: Elizabeth Dudeney was responsible for the conceptualisation of the study. Elizabeth Dudeney developed the initial list of items which was reviewed and refined with Rose Meades (nee Coates). Elizabeth Dudeney led and wrote the ethics application submission, with input from Rose Meades, Susan Ayers and Rose McCabe. Elizabeth Dudeney recruited and communicated with all participants, managed each survey round, analysed the data and produced the summary report, with support from Rose Meades. Elizabeth Dudeney wrote the first version of the manuscript. Rose Meades, Susan Ayers and Rose McCabe provided feedback on the manuscript draft and approved the final version.

I hereby declare that this thesis has not been and will not be, submitted in whole or in part to another University for the award of any other degree.



Elizabeth Dudeney

July 2025

Statement of co-authors of joint publications

TO WHOM IT MAY CONCERN

Title of publications:

Dudeney, E., Coates, R., Ayers, S., & McCabe, R. (2023). Measures of suicidality in perinatal women: A systematic review. Journal of Affective Disorders, 324, 210-231. https://doi.org/10.1016/j.jad.2022.12.091

Dudeney, E., Coates, R., Ayers, S., & McCabe, R. (2024). Acceptability and content validity of suicidality screening items: A qualitative study with perinatal women. *Frontiers in Psychiatry, 15.* https://doi.org/10.3389/fpsyt.2024.1359076

Dudeney, E., Meades, R., Ayers, S., & McCabe, R. (2024). Perinatal women's views and experiences of discussing suicide in maternity care settings: A qualitative study. *Women and Birth, 37*(6), 101662. https://doi.org/10.1016/j.wombi.2024.101662

Dudeney, E., Meades, R., Ayers, S., & McCabe, R. (2025). Attitudes, experiences, and implications of asking about suicide during the perinatal period: A qualitative study with maternity healthcare practitioners. *Midwifery, 142.* https://doi.org/10.1016/j.midw.2025.104309

Dudeney, E., Meades, R., Ayers, S., & McCabe, R. (2025). Questionnaire items to identify suicidality in perinatal women: a Delphi study. *Archives of Suicide Research.* 1-23. https://doi.org/10.1080/13811118.2025.2509645

Name of candidate: Elizabeth Dudeney

Title of research thesis: Approaches to exploring and measuring suicidality in pregnant and postnatal women

Name of first supervisor: Rose Meades

We, the undersigned, co-authors of the above publications, confirm that the above publications have not been submitted as evidence for which a degree or other qualification has already been awarded.

We, the undersigned, further indicate the candidate's contribution to the publications in our joint statement below.

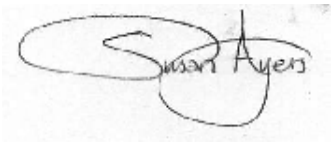
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Date: 10 July 2025

Statement indicating the candidate's contribution to the publication

All the articles are the work of Elizabeth Dudeney, with guidance from her PhD supervisors Rose Meades, Susan Ayers and Rose McCabe. Elizabeth Dudeney conducted all data collection and data analysis and wrote the first draft of each article. Elizabeth Dudeney also led on all subsequent revisions, including those suggested during the peer-review process.

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To my beautiful daughter Kira – I love you so much sweetheart. When you are old enough to understand, I hope that you will read this thesis and be proud of me.

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To all my friends that have kept me going – thank you for allowing me to be 'absent' at times when I needed to focus on this research. You have all been rooting for me from the start, and I hope you know how much that has meant. Thank you also for the runs, walks, coffees and pep talks when I needed to take a break. Just being there to listen to me, even if you didn't understand what I was talking about (especially when I was ranting on about psychometrics!), has helped me immensely.

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Thesis submitted for the degree of Doctor of Philosophy

APPROACHES TO EXPLORING AND MEASURING SUICIDALITY IN PREGNANT AND POSTNATAL WOMEN

Abstract

Background: Suicide is a leading cause of maternal death. Complex barriers affect suicidal disclosure. Maternity services are uniquely positioned to identify perinatal women requiring support. Appropriate approaches for discussing and identifying suicidality in these settings are not well understood. Screening measures offer a pragmatic solution for early identification. There is limited research exploring the psychometric properties, acceptability, content validity and utility of suicide-related screening measures with perinatal women and maternity practitioners.

Aim: This thesis research sought to gain an understanding of acceptable, appropriate, and clinically relevant approaches for identifying and discussing suicidality with pregnant and postnatal women in the context of maternity care. To address this aim, four objectives were created to determine the psychometric properties of suicidality measures, the content validity, acceptability and potential utility of suicide-related screening items, and to determine the barriers, facilitators and implications of discussing and identifying suicidality in maternity settings.

Methods: A sequential mixed-method design was used. One systematic review and three empirical studies were conducted: (i) cognitive and semi-structured interviews with pregnant and postnatal women (n = 21), data were explored using content analysis and inductive thematic analysis; (ii) semi-structured interviews with maternity practitioners (n = 15), data were explored using inductive thematic analysis; and (iii) online survey with participants who have experience and/or expertise in perinatal mental health (PMH), suicidality, and/or measurement development (n = 30), data were explored quantitatively and qualitatively in line with a Delphi consensus approach.

Results and discussion: The systematic review found limited reliability and validity evidence for suicidality measures that have been used with perinatal women. Measures need to be psychometrically robust, and acceptable to them. Many suicide-related items are unacceptable to perinatal women in their current form. This has implications for suicidal disclosure and may create and/or reinforce barriers to care. Key barriers in maternity contexts include stigma, fearing the consequences, poor continuity of care, and a lack of PMH and suicidality information. Maternity practitioners are uncomfortable administering some suicide-related items to perinatal women due to their content. Factors such as competing demands, lack of training, and overburdened services also impact their capacity and willingness to engage in suicide-related conversations. New and adapted items that are appropriate for use with perinatal women will help to overcome limitations of existing measures.

Conclusion: Findings can inform current approaches for identifying perinatal suicidality in maternity contexts and provide a basis for the preliminary development of perinatal specific suicidality measures.

Summary of thesis chapters

This thesis consists of eight chapters, five of these are published articles in peer-reviewed journals. As such, Chapters 3 to 7 are presented in a journal format. Chapters 1, 2 and 8 are presented in a traditional thesis format. The published articles report on the findings from four research studies conducted for this thesis, which includes one systematic review and three empirical studies. The section below briefly outlines each chapter to assist the reader with navigating the thesis.

Chapter 1: Background

The first chapter presents an overview of the main foci for this thesis (suicide, perinatal mental health, perinatal suicide and suicidality, and the identification and assessment of perinatal suicidality), discusses previous literature, and provides a rationale for the research conducted.

Chapter 2: Methodology

A mixed-methods approach was used in this thesis to answer the research aim and objectives. This chapter presents the rational for this approach and provides details of the methods, patient and public involvement (PPI), participants, and ethical approvals for each of the empirical research studies conducted. It also includes a reflexive account of researcher positionality.

Chapter 3: Article 1 - Systematic review (*Study 1*)

A systematic review was conducted to identify measures of suicidality that have been (i) administered with perinatal women, and (ii) evaluated the psychometric properties of measures that have been validated in this population. Suicidality measures need to be

psychometrically robust and appropriate for use with perinatal women in both clinical and research settings. It is important for health services and researchers to make informed decisions about which measures to administer. Chapter 3 reports on the validity and/or reliability of ten suicidality measures across 35 studies with pregnant and/or postnatal women.

Chapter 4: Article 2 – Qualitative research with perinatal women (*Study 2*)

Suicidality measures that are used with perinatal women also need to be acceptable, relevant, comprehensive, and comprehensible to them to ensure suitability and uptake. Chapter 4 reports on the acceptability and content validity of 16 suicide-related screening items that were identified through the systematic review (Study 1). One-to-one cognitive interviews were conducted with 21 pregnant and postnatal women, and data were explored using a coding framework based on the Theoretical Framework of Acceptability (Sekhon et al., 2017). Findings are considered and discussed in terms of: (i) the acceptability and content validity of each item; (ii) barriers and facilitators that may affect perinatal women's responses to the items; and (iii) the clinical implications of using these items in maternity care settings.

Chapter 5: Article 3 – Qualitative research with perinatal women (*Study 2*)

To support the acceptability findings in Study 2, Chapter 5 reports on perinatal women's views and experiences of discussing suicidality in maternity care settings to provide insight into the wider barriers and facilitators they may face. One-to-one semi-structured interviews were conducted with 21 pregnant and postnatal women, and inductive thematic analysis was used to explore the data and identify themes. Findings are considered and discussed in terms of: (i) multilevel barriers to the identification and disclosure of perinatal suicidality; (ii)

appropriate approaches for identifying and discussing suicidality in the maternity care context; and (iii) opportunities to facilitate suicidality disclosure.

Chapter 6: Article 4 – Qualitative research with healthcare practitioners (*Study 3*)

Maternity care practitioners are in a unique position to discuss and identify mental health difficulties and suicidality with pregnant and postnatal women. It is important that practitioners feel comfortable, able, and willing to ask or administer suicide-related questions to support the early identification of those who require additional care. Chapter 6 reports on healthcare practitioners' attitudes towards the 16 suicide-related screening items that were identified in the systematic review (Study 1), and assessed with perinatal women (Study 2), and explores their views, experiences and implications of discussing suicidality with perinatal women more broadly. Structured and semi-structured one-to-one interviews were conducted with 15 healthcare professionals who currently work or had previously worked with pregnant and/or postnatal women. Data were coded and quantified to examine participants' attitudes towards each suicide-related item, and thematic analysis was performed to identify themes across the dataset. Findings are considered and discussed in terms of: (i) attitudes towards each suicide-related item; (ii) barriers and implications of asking perinatal women about suicidality in maternity settings; and (iii) system-level and clinical implications for identifying and supporting perinatal women who may require additional care.

Chapter 7: Article 5 – Mixed-methods research with clinicians, academics and professionals (*Study 4*)

Building upon the findings of Studies 1 to 3, Chapter 7 reports on a Delphi consensus study that was conducted to determine the content validity, acceptability and potential clinical utility of 22 adapted and new suicide-related items for use with perinatal women. Panellists

(n = 30) with expertise and/or experience in perinatal mental health, suicidality, and/or the development of measurement instruments took part in a two-round online questionnaire to evaluate the items (and their corresponding response options) across five dimensions: relevance, clarity, acceptability, effectiveness, and feasibility. Consensus was determined as ≥ 70% panellists endorsing "quite relevant" or "highly relevant" (etc.) for all five dimensions. Free-text responses were also captured and analysed using thematic analysis to provide additional context to the quantitative findings.

Chapter 8: Discussion and conclusions

The final chapter summarises the four studies, discusses the main considerations and implications of the research within a broader context, considers strengths and limitations of the research, and considers implications for practice, policy and research. This chapter also presents impact and dissemination to date.

References for all chapters can be found at the end of this thesis

1 Background

1.1 Introduction and chapter overview

Perinatal suicide, which is defined as suicide occurring during pregnancy or within the first year after birth, is a leading cause of global maternal mortality (Chin et al., 2022). Despite increased awareness of perinatal mental health (PMH) issues, perinatal suicide has until recently remained an under-recognised and neglected area in both clinical practice and research, and in wider suicide prevention initiatives (Kobylski et al., 2023). The perinatal period is marked by profound physiological, psychological, and social transitions, which can exacerbate underlying mental health conditions or precipitate new ones. Factors such as depression, sleep disturbances, intimate partner violence, substance abuse, pregnancy loss, and pregnancy and birth related complications can increase the risk of perinatal suicidality (Bright et al., 2022). However, the identification of perinatal suicidality poses many complex challenges, particularly in terms of the stigma and fear around disclosing suicidal ideation or behaviours, and current screening and assessment approaches in maternity healthcare settings. Gaps in detection and a lack of provision and/or access to appropriate care continue to hinder timely identification and intervention for perinatal women experiencing suicidality, which has significant adverse effects for both mother and baby.

This chapter provides an overview of existing literature and knowledge related to suicide (section 1.2), PMH (section 1.3), and perinatal suicide (section 1.4). The first section introduces the phenomenon of suicide with consideration to prevalence, definitions, key theories, identification of suicidality, and barriers and facilitators to suicidal disclosure. The chapter then discusses PMH, with attention to the prevalence of different conditions and how PMH is being addressed in England. Building upon the key topics presented in these two sections, the focus then turns to perinatal suicide specifically. This section explores suicide and suicidality prevalence during pregnancy and after birth, risk factors, adverse outcomes,

and barriers and facilitators to identification and disclosure, and in particular, screening and assessment barriers. Here, current screening and assessment approaches to perinatal suicidality are discussed, and implications such as the validity and reliability of measures, content of items, and feasibility of screening for perinatal suicidality in maternity care settings are considered. The chapter concludes with an overview of the rationale for this thesis and sets out the key aims and objectives.

1.1.1 Inclusivity

It is important to acknowledge that not all people who experience pregnancy, childbirth or the postnatal period identify with terms such as “woman”, “mother”, or “female” (e.g.,). Individuals of diverse gender identities become pregnant and face PMH challenges, including suicidality. The use of gendered language in this thesis reflects the terminology used in much of the existing literature regarding this topic. However, this should not be interpreted as excluding or diminishing the experiences of all birthing people. Recognising and respecting gender diversity in perinatal care and research is essential for inclusive, equitable and effective mental health support for all.

1.2 Suicide

Suicide is a pressing global public health issue. Every life lost to suicide is a preventable tragedy. The impact of suicide for those who are left behind has devastating and long-lasting effects, which ripple through families, communities, and nations. Suicide is an act of self-directed injury with the intention to end one’s own life (National Institute of Mental Health, 2025). It is a complex and multifaceted phenomena that is driven by a combination of psychological, biological, social, cultural, and environmental influences (O’Connor, 2011). Whilst there are many known factors that might contribute to a person’s risk of suicide, there

is no one specific reason for why people die by suicide. Suicide can occur impulsively, or suicidal ideation and behaviours can develop over time. Suicide may follow a period of stress or trauma, it may be comorbid with or exacerbated by mental health conditions, or it may occur with no obvious prerequisite. Suicide does not discriminate by age, gender, or ethnicity, and it can happen at any stage of a person's life. Other risk factors for suicide include (but are not limited to): previous suicide attempts, self-harm, psychological and emotional vulnerabilities, addiction and/or drug or alcohol abuse, childhood or domestic abuse, social isolation, deprivation, loss and/or significant life transitions, chronic illness and/or disability, financial or legal issues, or a lack of access to services or support (Arowosegbe & Oyelade, 2023; Mental Health UK, 2025). Often, suicide can feel like the only option to end intense and unbearable psychological pain, but it is not necessarily driven by a true desire to die (Baryshnikov & Isometsä, 2022). It is imperative that global multi-sector suicide prevention and intervention strategies are implemented to address and minimise the individual, social, cultural and economic burden of suicide-related deaths.

1.2.1 Differentiating suicidal ideation, suicidal behaviours and suicide attempts

The American Psychological Association defines "suicidality" as "the risk of suicide, usually indicated by suicidal ideation or intent, especially as evident in the presence of a well-elaborated plan" (American Psychological Association, 2025). However, the term suicidality is also often used as a hypernym for a spectrum of suicide-related constructs including suicidal ideation, suicidal plans/preparations, suicidal intent, suicidal behaviours, and suicide attempts. It is important to recognise that these are distinct processes which are governed by different precipitating factors and carry varying degrees of suicide risk (Klonsky et al., 2021). *Suicidal ideation* is the experience of thoughts or rumination about wanting to die or dying by suicide. Suicidal ideation can be passive or active, and the intensity, frequency, and

realisation of these thoughts vary greatly from person to person. For example, passive suicidal ideation may present as a feeling of wanting to go to sleep and not wake up, without any desire or intention to actively harm oneself. Conversely, active suicidal ideation moves beyond passive thoughts of death and involves more concrete consideration about how to end one's own life. Many people who experience suicidal ideation do not make a suicide attempt (Klonsky & May, 2014). However, the expression of suicidal ideation is considered an important risk factor for future suicide and warrants professional attention to understand individual circumstances and context (including risk and protective factors). *Suicidal plans or preparations* are the specific steps taken prior to making a suicide attempt, and before any suicidal self-injury has occurred. This may include researching suicide methods and/or obtaining means, or writing goodbye notes (etc.). *Suicidal intent* refers to a commitment or resolve to actively end one's own life. Suicide plans and/or intent pose a significantly higher level of risk than ideation alone. Timely and appropriate professional intervention is important to keep a person safe from acting on their plans. Lastly, *suicidal behaviours* are self-directed acts of injury or harm which are deliberately conducted with the intent to *attempt suicide* or die by suicide.

1.2.2 Suicide prevalence

Figures from the World Health Organisation (World Health Organisation [WHO], 2024) show that over 720,000 people die by suicide every year, and for each registered suicide death, a further twenty suicide attempts are made. Seventy-three percent of global suicides occur in low- and middle-income countries (LMICs), and across all countries, suicide is the third leading cause of death among those aged 15 to 29 years (WHO, 2024). The global suicide rate is more than twice as high among men (12.6 deaths per 100,000) compared to women (5.4 deaths per 100,000) (WHO, 2021). However, whilst suicide mortality is higher in

males, evidence suggests that the prevalence of suicidal ideation and non-fatal suicidal behaviours (such as drug overdose or self-poisoning) is higher in females (Schrijvers et al., 2012; Qu et al., 2024).

In England and Wales, 6,069 suicide deaths were registered in 2023, which is a mortality rate of approximately 11.4 deaths per 100,000 people (Office for National Statistics [ONS], 2024). This is the highest rate of suicide in England and Wales since 1999. Around three-quarters of these deaths were male suicides (n = 4,506), although female suicides are also increasing. In 2023, 1,563 females died by suicide (5.7 deaths per 100,000), which was an increase from 2022 (5.4 deaths per 100,000), and the highest rate since 1994. The highest age-specific prevalence of female suicide death was among those aged 50 to 54 years (9.2 deaths per 100,000). Suicide prevalence in transgender and non-binary people is under-researched and data are not available in the ONS figures. However, the 2021 census for England and Wales included a voluntary question regarding sexual orientation which highlighted that between 2021 to 2023 the age-standardised suicide rate among individuals with an LGB+ orientation was 50.3 per 100,000, more than double the rate of 23.1 per 100,000 observed among those who described themselves as "straight or heterosexual" (ONS, 2025). Hanging, strangulation and suffocation are the most common methods of suicide in England and Wales, accounting for 58.8% of all suicides (ONS, 2024).

1.2.3 Suicide prevention strategy in England

The annual economic cost of suicide in the UK is approximately £9.58 billion, with each life lost attributing around £1.46 million (Samaritans, 2024a). In 2019, the UK government invested £2.3 billion in mental health as part of the NHS Long Term Plan (NHS England, 2019), with £57 million specifically allocated for suicide prevention and suicide bereavement support. Since then, a further £10 million has been allocated to voluntary, community and

social enterprise (VCSE) sectors to assist in the delivery of suicide prevention activity. Significant investment has also been made to address underlying risk factors for suicide and to provide targeted support to high-risk groups (GOV UK, 2023). The five-year suicide prevention strategy for England (GOV UK, 2023) aims to reduce suicide deaths, and improve support for people who have self-harmed or are bereaved by suicide by 2028. This strategy has identified and prioritised eight areas for a call to action, which require cross-agency involvement from the NHS, local governments, VCSE sectors, academia, employers and individuals to achieve these aims. The action areas are in Box 1 as follows:

1. Improve data and evidence to ensure that effective, evidence-informed and timely interventions continue to be adapted

2. Provide tailored, targeted support to priority groups, including those at higher risk. At a national level, this includes: children and young people; middle-aged men; people who have self-harmed; people in contact with mental health services; people in contact with the justice system; autistic people; pregnant women and new mothers

3. Address common risk factors linked to suicide at a population level by providing early intervention and tailored support. These are: physical illness; financial difficulty and economic adversity; gambling; alcohol and drug misuse; social isolation and loneliness; domestic abuse

4. Promote online safety and responsible media content to reduce harms, improve support and signposting, and provide helpful messages about suicide and self-harm

5. Provide effective crisis support across sectors for those who reach crisis point

6. Reduce access to means and methods of suicide where this is appropriate and necessary as an intervention to prevent suicides

7. Provide effective bereavement support to those affected by suicide

8. Make suicide everybody's business so that we can maximise our collective impact and support to prevent suicides

Box 1. Suicide prevention strategy for England – priority areas for action (GOV UK, 2023)

This collective approach and recognition of suicide being "everyone's business" is also essential for reducing suicide and mental health related stigma, equipping individuals with the necessary skills to engage in conversations about suicide, and for addressing inequalities and the needs of marginalised communities.

1.2.4 Overview of key psychological theories of suicide

Three prominent theories of suicide have attempted to explain the psychological underpinnings of suicidality and have examined the distinction between factors that may lead to suicidal ideation, factors that may lead to suicidal behaviours and/or death, and factors that govern the transition between these two states. These are: (i) the Interpersonal Theory of Suicide (Joiner, 2005; Van Orden et al., 2010); (ii) the Integrated Motivational-Volitional Model of Suicidal Behaviour (O'Connor, 2011; O'Connor & Kirtley, 2018); and (iii) the Three-Step Theory of Suicide (Klonsky & May, 2015). All three theories emphasise the interplay between psychological pain, social factors, and acquired capability in shaping suicidal behaviours, and they highlight the importance of multiple interacting factors that increase the risk of suicide. These theories posit an "action-to-ideation" framework but differ in terms of their focus and the trajectory of suicidal development. See Table 1.1 for key similarities and differences between the three theories.

The *Interpersonal Theory of Suicide* was first developed by Joiner (2005) and later refined by Van Orden et al. (2010). This theory suggests that the development of suicidal ideation is caused by a simultaneous manifestation of two interpersonal constructs "perceived burdensomeness" (i.e., feeling that you are a burden to others) and "thwarted belongingness" (i.e., social isolation and/or a belief that you don't belong). These two factors can create a sense of hopelessness which forms the basis for suicidal ideation. However, these conditions alone are not sufficient for suicidal behaviour to occur. Here, Van Orden et al. (2010) propose

a third factor "acquired capability for suicide" which develops as a result of habituation and repeated exposure to physical pain (e.g., self-harm) and/or traumatic experiences. This leads to a lowered fear of death and an elevated tolerance for physical pain, which significantly increases a person's risk of suicide and the capacity to engage in fatal acts.

The *Integrated Motivational-Volitional Model of Suicidal Behaviour* was developed by O'Connor (2011) and later refined by O'Connor and Kirtley (2018). The central premise of this theory is that suicidal behaviour is driven by a combination of motivational and volitional factors which stem from a complex interaction between biology, psychology, culture and environment. Suicidal ideation and intent emerge through a sense of entrapment and feelings of defeat and humiliation, which are influenced by biosocial factors such as individual vulnerabilities, negative life events and mental health difficulties. This forms the "motivational" phase of the model. The transition from suicidal ideation and intent to suicidal attempts/suicide is governed by "volitional" moderators (the volitional phase) which include, acquired capability for suicide (fearlessness about death and increased pain tolerance), access to means, planning, previous exposure to suicide or suicidal behaviour, impulsivity, and experiencing mental imagery of death.

The *Three-Step Theory of Suicide* was developed by Klonsky and May (2015). In this theory, the development of suicidal ideation and the progression from ideation to suicide attempts/suicide are explained by four overarching factors, comprising three phases. Suicidal ideation is caused by a combination of pain (in any sense of the word, but usually psychological pain) and hopelessness (phase one). The intensity and nature of a person's suicidal ideation is moderated by their sense of "connectedness" to life (phase two). That is, if someone's connectedness is stronger than their feelings of pain and hopelessness, suicidal ideation may not progress to an active desire to die, and vice versa. Similar to the other two suicide theories, Klonsky and May (2015) also propose that the transition from ideation to

suicide attempt/suicide is driven by acquired capability (phase three). However, here suicide capacity is defined by three broader categories: “dispositional” factors (i.e., driven by biology or genetics, such as pain sensitivity), “acquired” factors (i.e., habituation to pain, fear or traumatic experiences), and “practical” factors (i.e., knowledge and access to means).

Table 1.1 Similarities and differences between the three theories of suicide

Aspect	Interpersonal Theory of Suicide	Integrated Motivational-Volitational Model of Suicidal Behaviour	Three-Step Theory of Suicide
Key factors causing suicidal ideation	Perceived burdensomeness and thwarted belongingness	Defeat and entrapment (facilitated by threat-to-self and motivational moderators)	Combination of psychological pain and hopelessness
Key factors causing transition from suicidal ideation to suicidal attempts	Acquired capability for suicide	Capability, impulsivity, planning, access to means, imitation, and other volitation moderators	Dispositional, acquired and practical contributors to increased capacity for suicide
Role of psychological pain	Psychological pain is a result of perceived burdensomeness and thwarted belongingness (leading to suicidal ideation)	Psychological pain – defeat and entrapment – is the motivational factor that drives the desire for suicide	Psychological pain drives the desire for suicide
Role of social factors	Strong emphasis on interpersonal factors – social isolation and the perception of being a burden are key drivers of suicidal ideation	Acknowledges social defeat and entrapment as central to the motivational phase, but integrates a broader range of factors	Emphasises connectedness as a moderator for the intensity and nature of suicidal ideation
Role of life events	Life events that contribute to perceived burdensomeness or thwarted belongingness may cause suicidal ideation, but are not central to the theory. Traumatic experiences can also contribute to the development of acquired capacity	Life events trigger the motivational phase, leading to feelings of defeat and hopelessness. Life events are seen as key factors for suicidal ideation	Life events are important factors for psychological pain, and the development of acquired capability
Development of capability for suicide	Individuals habituate to pain, fear, or traumatic experiences, making them more capable of suicidal actions	Focuses on the volitional phase, where individuals develop a capability for suicide (e.g., through experience, impulsivity, or repeated exposure)	Acquired capability (habituation to pain, fear, or traumatic experiences) is one of three factors that govern the transition from ideation to suicide attempt/suicide
Phases of suicidal development	Two main conditions: (i) perceived burdensomeness and (ii) thwarted belongingness. These lead to suicidal ideation, with acquired capability facilitating the transition to a suicide attempt	Three phases: (i) pre-motivational phase (background factors and triggering events), (ii) the motivational phase (emotional distress, defeat and entrapment) and (iii) the volitational phase (capability, impulsivity, access to means)	Three phases: (i) pain and hopelessness; (ii) connectedness; and (iii) suicide capacity

Notes: Interpersonal Theory of Suicide (Joiner, 2005; Van Orden et al., 2010); Integrated Motivational-Volitational Model of Suicidal Behaviour (O'Connor, 2011; O'Connor & Kirtley, 2018); Three-Step Theory of Suicide (Klonsky & May, 2015)

1.2.5 Identifying suicidality: Individual, social, and cultural factors

Identifying suicidality poses several complex challenges. There are numerous individual, social, and cultural barriers that affect people's disclosure of suicidality, and there are also barriers to identifying suicidality and/or assessing suicide risk in clinical settings. For the purpose of this thesis, these two areas are discussed separately. However, it is important to note that these barriers are not mutually exclusive, and there is significant overlap and interplay between them.

1.2.5.1 Suicide stigma

Suicide stigma is one of the most pervasive barriers for identifying and supporting people who are experiencing suicidality. Negative beliefs, attitudes, and social taboos surrounding suicide and/or individuals who are affected by suicidality manifest in various ways and have significant implications for suicide prevention and intervention. Stigma can lead to discrimination and increase the risk of suicide (Wyllie et al., 2025). People may be deterred from disclosing suicidality due to feelings of shame or guilt, or they may fear the consequences of disclosure in terms of judgement, rejection/social isolation, negative mental health labelling, blame, or perceived outcomes and intervention concerns (e.g., fear of hospitalisation and/or impact upon family and daily life) (Blanchard & Farber, 2018; Wyllie et al., 2025). Research shows that stigma may also prevent those who have lost a loved one to suicide from sharing their grief with others, and/or they may feel a sense of societal blame for not noticing or acting upon possible suicidal indicators (Hanschmidt et al., 2016; Evans & Abrahamson, 2020). This can lead to social withdrawal, complicated grief, depression, and an increased risk of self-harm or suicide (Wyllie et al, 2025). Breaking the stigma of suicide by normalising conversations around mental health, promoting suicide awareness and education,

and fostering a culture of empathy, understanding and support is essential for encouraging help-seeking behaviours and reducing suicide deaths.

1.2.5.2 Religion, culture, and suicide laws

Religion and cultural beliefs also have a significant impact upon suicide stigma and the identification of those who may need support (Lehmann et al., 2021). Some faiths or cultures view suicide as a moral failure or sin, which can contribute to the dehumanisation of individuals who attempt suicide or die by suicide, create barriers to supportive responses, lead to ostracisation from family, communities, and/or society in general, and cast shame upon families who are bereaved by suicide (Asare-Doku et al., 2017; Azizpour et al., 2017; Lehmann et al., 2021; Ohayi, 2019; Osafo et al., 2015; Tzeng et al., 2010). For example, research exploring the attitudes and cultural responses to suicide in indigenous societies in Uganda shows that suicide is regarded as a disgrace (Mugisha et al., 2011, 2018). Bereaved family members (and the wider community) are not allowed to show any outward expressions of grief following a death by suicide, and the deceased person's body must be buried immediately. As this quote highlights "Killing oneself is disrespect and a disgrace for yourself and you don't expect others to respect you. We don't show any emotional devastation [outpour] for such people [the suicide] and society is expected to grieve only those that deserve [grieving] it" (Mugisha et al., 2018, p.547).

Likewise, whilst suicide was decriminalised in the UK under the Suicide Act in 1961, there are still 18 countries worldwide where suicide remains illegal, and a further 20 countries where Islamic or sharia law applies (where suicide is forbidden) (Mishara & Weisstub, 2024). People who attempt suicide in these countries may be punished, with sentencing ranging from short imprisonment or a fine, to a lifelong incarceration. It is therefore critical that global efforts are made to understand and support the psychosocial

needs of those who attempt suicide, rather than treating them as criminals. Decriminalising suicide in these countries is also an important step in reducing the global prevalence of suicide (WHO, 2023).

Furthermore, despite suicide no longer being illegal in the UK, its population is ethnically diverse and many people living in the UK originate from countries where suicide and suicidality remain criminalised and/or highly stigmatised. This may mean that some individuals carry internalised fear, shame, or moral conflict about suicide and suicidality which are shaped by prior experiences, intersectional factors, religious beliefs, and/or cultural backgrounds, irrespective of current UK law (Lehmann et al., 2021). As such, people may avoid disclosing suicidality or they may express suicidal distress in culturally specific or different ways, which has implications for identification and support. Understanding and addressing suicidality through a culturally sensitive lens is therefore essential for reducing health inequalities and ensuring that suicide prevention strategies are responsive to the needs of diverse groups.

1.2.5.3 Suicide language

The language we use to discuss, describe, or report on suicide and/or suicidality plays a considerable role in perpetuating or reducing suicide-related stigma (Padmanathan et al., 2019; Paton et al., 2024). Language is a powerful tool for shaping how people perceive and respond to suicidality at both an individual and societal level. Stigmatising and sensational language can reinforce implicit and explicit negative beliefs about suicide, create harmful stereotypes, prevent people from engaging in appropriate, open, and compassionate conversations, and impact help-seeking behaviours (Samson et al., 2024). For example, the term “committed suicide” is no longer considered acceptable or appropriate due to its association with criminality and/or sinful acts. Instead, language that emphasises compassion

and respect such as “suicide death” or “died by suicide” is recommended (Everymind, 2023; NHS England, 2025; Samaritans, 2024b). See Table 1.2 for example suicide-related language guidelines. Research also shows that publicly sharing descriptions of suicides, methods and locations can increase suicidal behaviours, stimulate contagion and heighten suicide risk (Niederkrotenthaler et al., 2020; Pirkis et al., 2006; Sinyor et al., 2018; WHO, 2023). However, there is no evidence that talking or enquiring about suicide with someone in a compassionate and supportive way will have iatrogenic effects (Blades et al., 2018; Dazzi et al., 2014). It is imperative that the reporting of suicide in the media and online is handled sensitively and ethically to prevent contagion effects and harm, and clear guidelines are now available to support journalists to responsibly communicate about suicide (Samaritans, 2024b; The Suicide Reporting Toolkit, 2020; WHO, 2023).

Table 1.2 Example suicide-related language guidelines

Problematic language	Preferred language	Rationale
“Committed suicide” or “commit suicide”	“Died by suicide” or “suicide death” or “took their own life” or “ended their own life”	Associates suicide with ‘criminality’ or ‘sin’ or ‘incarceration’ which is harmful and perpetuates stigma
“Completed suicide”	“Died by suicide” or “suicide death” or “took their own life” or “ended their own life”	Implies earlier suicide attempts when there may have been none, or that suicide is an achievement that only has one end
“Successful suicide” or “failed suicide” or “unsuccessful suicide”	“Died by suicide” or “suicide death” or “took their own life” or “ended their own life” or “suicide attempt” or “non-fatal suicide attempt”	Talking about suicide in terms of success or failure is not helpful, and it presents suicide as a desired outcome. If a person survives, this language reinforces the feeling of failure. If a person dies by suicide, it cannot ever be a success
“You aren’t going to do something silly are you?”	“Are you thinking about ending your life” or “are you feeling suicidal”	The stigma and taboo around talking about suicide can make it harder for people who are experiencing these feelings to open up and feel understood. Direct questions can help someone talk about how they are feeling.
“They were suicidal”	“They experienced suicidal thoughts/suicidal ideation”	Experiencing something is different from it being part of your identity
“Suicide epidemic”	“Increase/rise in suicide rate”	To avoid sensationalism and inaccuracy

Notes: These examples were informed and/or adapted from suicide language guidelines by the International Association of Suicide Prevention (IASP) (2022) and Grassroots Suicide Prevention (2025).

1.2.6 Identifying suicidality in healthcare settings

Evidence suggests that approximately 80% of people who die by suicide have had contact with primary healthcare services in the year prior to their death (Stene-Larsen and Reneflot, 2019; Musgrove et al., 2024). Medication reviews, depression and pain are the most common reasons for consultations during this time (Alothman et al., 2024). This figure underpins the critical need for suicide prevention and intervention strategies to be implemented into primary care as this is often the first place of contact for those who require support. However, identifying suicidality in clinical and healthcare contexts is challenging. Alongside the numerous individual, social and cultural barriers for identifying suicidality there are also factors within these settings that affect disclosure and limit effective screening, assessment, and access to services and treatment.

1.2.6.1 Methods for identifying suicidality, and/or assessing suicide risk in the UK

Approaches for identifying suicidality and/or assessing suicide risk are implemented in different ways depending on the setting, the presenting context of the individual, and the capacity of the healthcare service (and/or professional) to make onward referrals. In primary care settings, screening for suicidality is not routinely implemented. Generally, the focus of mental health screening in these contexts is for depression (and/or other common mental health problems) rather than suicidality per se. If a person is identified as experiencing suicidality (either because they endorsed a suicidality item(s) on a depression screen or disclosed this information to a professional) then they may be referred to a secondary care service where a comprehensive risk assessment can be conducted.

There are a variety of suicide risk assessments, diagnostic interviews, and screening questionnaires that can be used, although it is important to recognise the limitations of these tools in terms of predictive accuracy, bias and appropriateness (Carter et al., 2017;

Fedorowicz et al., 2023; Graney et al., 2020; Royal College of Psychiatrists, 2023). There is also considerable variability in how widely suicide risk assessments are carried out in practice (Fedorowicz et al., 2023). Furthermore, the UK National Institute for Health and Care Excellence (NICE) (2022a) and NHS England (2025) guidelines state that suicide risk assessments should not be used to stratify risk (e.g., high risk, moderate risk, low risk), predict future suicide attempts, or determine who should or should not be given access to treatment. Suicide risk is not static, nor is it appropriate to assess risk in isolation to other individual factors. Instead, NICE (2022a) and NHS England (2025) recommend that all persons indicating suicidality should receive a full biopsychosocial assessment to explore individual needs, vulnerabilities and circumstances. A safety management and treatment plan can then be developed based on these factors. This approach is underpinned by the research of Hawton et al. (2022) who propose a therapeutic and person-centred model of risk assessment to reduce suicide in people experiencing mental health problems, and to improve patient safety and quality of care.

In crisis situations where a person either presents at an emergency department or contacts a crisis line following self-harm, a suicide attempt or is experiencing active suicidal ideation, access to mental health support may be provided more quickly than in primary care. Most emergency departments in the UK have a psychiatric liaison team who can conduct psychosocial risk assessments, and/or provide resources for support in the community. Research indicates that brief psychological interventions in emergency departments for those presenting with self-harm and/or suicidality are effective at reducing future suicide attempts and suicide (McCabe et al., 2018). Such interventions can also provide timely, person-centred care to highly distressed individuals which may help to foster self-agency, hope, and collaborative practitioner-patient relationships (Shah et al., 2024).

1.2.6.2 Barriers and facilitators to suicidality disclosure, assessment, and treatment

Barriers and facilitators to the identification, assessment and treatment of those experiencing suicidality in health care settings can be broadly grouped into the following categories: (i) individual factors (e.g., beliefs, personal characteristics and circumstances, past experiences with healthcare practitioners (HCPs), disclosure motivators and inhibitors); (ii) practitioner factors (e.g., beliefs, attitudes, training and confidence around discussing suicide, role capacity, time constraints); (iii) interpersonal factors (e.g., quality of practitioner-patient relationship, trust and rapport, continuity of care); (iv) assessment factors and settings (e.g., content, appropriateness and validity of approaches and measurement tools); and (v) system-level factors (e.g., service provision, referral pathways, access to specialist care).

1.2.6.2.1 Individual factors

Key factors related to individual, social and cultural barriers for the disclosure and identification of suicidality have been described in previous sections of this thesis. However, these are often heightened in clinical and healthcare settings, with stigma, shame, guilt and avoidance being central issues. Research also suggests that people may conceal suicidal ideation from clinicians due to a fear of the practical implications, such as involuntary psychiatric hospitalisation or unwanted outcomes (e.g., medication, privacy concerns, impact upon work or family) (Blanchard & Farber, 2018; Sheehan et al., 2019), and/or people may struggle to describe what they are feeling due to the overwhelming intensity of their emotions (Maple et al., 2020; Richards et al., 2019a). Conversely, the provision of information and psychoeducation regarding suicide and treatment outcomes and an emphasis on support and shared decision-making may help to facilitate disclosure and engagement with services (Blanchard & Farber, 2018; Wolk et al., 2024). Adverse experiences with HCPs, negative labelling and/or unhelpful reactions to suicidality disclosure may also affect or prevent help-

seeking behaviours, which is considered further below (Brousseau-Paradis et al., 2024; Sheehan et al., 2017, 2019; Wyllie et al., 2025).

1.2.6.2.2 Practitioner factors

Primary care practitioners are in a pivotal position to identify and initiate support for someone who is experiencing suicidality, with GPs often being the first point of contact. The way in which HCPs approach, discuss and respond to conversations about suicide can significantly influence patient experiences and outcomes. However, time constraints, competing demands, and limited mental health and suicide training have been highlighted as important barriers in these settings (Mayer et al., 2025; Saini et al., 2024). These factors affect HPCs confidence and ability to ask questions about suicide, reinforce stigma and bias, and implicate their recognition of people who are experiencing suicidality, which can lead to negative interactions and cases being missed (Bajaj et al., 2008; Boukouvalas et al., 2020; Leavey et al., 2017; Wärdig et al., 2022; Wyllie et al., 2025). For example, research indicates that some HCPs feel unsafe with the responsibility of conducting suicide-related assessments (Mayer et al., 2025; Wärdig et al., 2022), and/or they may avoid asking about suicide through a fear that it will cause iatrogenic effects (Bajaj et al., 2008). This can lead to overly cautious or defensive clinical practices, which are driven by concerns over liability or blame rather than person-centred care (O'Keeffe et al., 2021). Mental health and/or suicide questions may also be overlooked due to limited time and underperceived prioritisation during appointments (Davis et al., 2024). Likewise, research exploring self-harm and/or suicidality conversations in secondary care contexts has found that HCPs tend to negatively phrase suicide-related questions in a way that encourages a "no" response from patients, and/or they may use closed and constrained questions that limit the opportunity for the person to disclose their experiences (McCabe et al., 2017, 2023). Evidence also suggests that it is important to ask

about suicide in a clear, direct and empathetic manner to avoid any confusion (Morriss et al., 2013). These issues underscore the need for suicide-specific training to become an integral part of suicide prevention in healthcare settings. This may help support HCPs knowledge, confidence and attitudes towards caring for people experiencing suicidality, and to better enable them to empathetically engage in suicide-related conversations with an informed and non-judgemental manner (Boukouvalas et al., 2020; Richards et al., 2019a, 2019b).

1.2.6.2.3 Interpersonal factors

As aforementioned, the quality and nature of the practitioner-patient interaction is a key mediating factor for the disclosure and identification of suicidality. Evidence shows that building rapport and establishing trust can facilitate a more open conversation about suicide, which enables people to feel more comfortable and willing to share how they are feeling (Davis et al., 2024). Likewise, it is important that suicide-related discussions are conducted in a safe environment and with a non-judgemental manner to validate someone's experiences (Richards et al., 2019a, 2019b). Research also suggests that how individuals perceive the practitioner-patient relationship, and the strength of the therapeutic alliance is associated with suicidality severity. That is, a strong therapeutic alliance and/or a high-quality relationship has been linked to lower levels of suicidality and improved help-seeking behaviours (Dunster-Page et al., 2017; Schultz et al., 2021). However, a lack of continuity of carer or "relational continuity" is a barrier to the development of effective practitioner-patient relationships across primary and secondary care (Royal College of General Practitioners, 2021; Royal Collage of Psychiatrists, 2024). Whilst the presenting context of suicidality precludes the scope for continuity of carer in some settings (i.e., emergency departments), many individuals who are experiencing suicidality often see different HCPs, and/or may be asked to discuss suicide with someone they have never met before which has obvious

implications for the development of a consistent and trusting relationship. In the absence of relational continuity, it is particularly important for HCPs to use open communication, active listening and sensitive questioning when asking about suicidality, as this may help to create a supportive space where people feel safe to talk (NHS England, 2025).

1.2.6.2.4 Assessment factors

The type of assessment conducted to identify and/or explore the nature of a person's suicidality depends on the presenting context. Barriers, implications, and recommendations in relation to suicide risk assessment have been discussed previously. Self-report screening measures are also commonly used in primary care settings as an initial step for identifying possible mental health difficulties (NICE, 2025). Often, suicide and/or self-harm related items are embedded within screening questionnaires for broader conditions such as depression or anxiety (e.g., The Patient Health Questionnaire-9 [PHQ-9], Kroenke et al., 2001), although there are some suicidality specific measures such as the Columbia-Suicide Severity Rating Scale (C-SSRS) (Posner et al., 2011) or Beck Scale for Suicidal Ideation (BSSI) (Beck et al., 1979). Implications related to identifying suicidality in the context of screening for other mental health conditions are discussed in subsequent sections of this thesis. The benefits of using screening measures include: (i) accessible and easy to administer; (ii) brief and relatively quick to complete; (iii) standardised threshold scoring; (iv) can help monitor changes over time; and (v) can be used in differing populations (clinical and non-clinical) (US Preventative Services Task Force, 2023). However, given that suicidality is a complex and multifactorial phenomena, there are barriers and limitations to this approach in terms of acceptability, appropriateness, and the validity and reliability of measures. Research shows that some people find screening questionnaires confusing, impersonal and/or they do not adequately capture individual experiences (Arseniev-Koehler

et al. 2018; Malpass et al., 2010, 2016; Richards et al., 2019a, 2019b). This can lead to defensiveness and/or avoidance of answering the questions and hinder the opportunity for open and meaningful conversation (Leavey et al., 2017). For example, Richards et al. (2019b) conducted a qualitative study to explore why people may not disclose suicidal ideation on the PHQ-9 prior to making a suicide attempt. Their findings suggested that alongside factors such as fear and stigma, some participants felt that the wording of this item did not match their emotional experience, hence they reported no ideation. Therefore, whilst screening questionnaires can be helpful as an initial approach for identifying someone who may require additional support, they should not be used in isolation, nor should they be used for diagnostic purposes (Zimmerman, 2024). Best practice involves combining these tools with open conversations and clinical judgement in a trusting and safe environment, which may then lead to a more comprehensive biopsychosocial risk assessment and/or referral to specialist services (NICE, 2022b; Patient, 2024).

1.2.6.2.5 System-level factors

Despite considerable investment and prioritisation in suicide prevention in the UK (GOV UK, 2023; NHS England, 2019) system-level factors continue to significantly influence the identification, assessment, and treatment of individuals experiencing suicidality. Structural elements such as fragmentation of care (e.g., where primary care, mental health services and emergency departments operate in silos) and under-resourced services create systemic shortcomings, whereas integrative and collaborative care models have the opposite effect (Steeg et al., 2024; Grigoroglou et al., 2021). Evidence shows that the link between primary and secondary mental health services is often complicated and disjointed, which can result in poor communication, delayed referrals and intervention, and individuals falling through service gaps (Leavey et al., 2017). Likewise, issues related to underfunded and/or

overstretched service provision contribute to restrictive referral criteria, long waiting lists and capacity barriers, and insufficient and/or variable access to specialist support (Mughal et al., 2020; Wärdig et al., 2022; Wolk et al., 2024). These factors affect HCPs ability to support people experiencing suicidality and increase the risk of suicide in those who cannot access timely and appropriate care (Leavey et al., 2017). The continued development of integrated care pathways that connect primary care, mental health services, emergency departments, and community-based support, and the provision of effective and appropriate twenty-four-hour crisis support are important for overcoming systemic barriers (GOV UK, 2023; NHS England, 2019). Quality improvement approaches to suicide and self-harm intervention may also help to bridge implementation gaps in service provision (Kapur et al., 2025).

1.3 Perinatal mental health

Perinatal mental health (PMH) refers to a person's emotional and psychological wellbeing during pregnancy and up to one year after birth (NHS England, 2018). This period is a time of significant physical, emotional, and social change, and while it can be joyful, it can also increase vulnerability to mental health challenges. Common PMH conditions include depression, anxiety, post-traumatic stress disorder (PTSD), obsessive-compulsive disorder (OCD), eating disorders and, less frequently, postpartum psychosis (Maternal Mental Health Alliance, [MMHA], 2025). Women may have preexisting mental health difficulties prior to pregnancy, or symptoms may develop for the first time during this period. A UK survey of over 2300 pregnant and postnatal women highlighted that of those who had experienced PMH difficulties, 74% had no previous history of mental health problems (Royal College of Obstetricians & Gynaecologists, 2017). PMH difficulties can range from mild to severe and can affect any woman regardless of age, ethnicity or background (MMHA, 2025; WHO, 2025). Some women may also experience suicidal ideation and behaviours, and in tragic

cases, death by suicide may occur. PMH difficulties not only impact the mother but can have far-reaching consequences for their child(ren), partner and wider family. Likewise, there is increasing acknowledgement and research that fathers and non-birthing partners can also suffer from PMH conditions which is an important area for attention (Fisher et al, 2024; Watkins et al., 2024). If left untreated, PMH difficulties can disrupt mother-infant bonding, increase the risk of preterm birth or low birth weight, and/or affect the child's cognitive and emotional development (Langham et al., 2023; O'Dea et al., 2023; Rogers et al., 2020). It is vital that PMH difficulties are identified early, and that prompt access to appropriate support and care is available.

1.3.1 Prevalence of mental health difficulties during pregnancy and after birth

PMH difficulties are a significant global public health concern, affecting approximately 10% of women in pregnancy, and 13% of women after birth (WHO, 2025a). In England, recent data from the Clinical Practice Research Datalink indicates that the estimated prevalence of PMH conditions for women who gave birth in 2019 was almost 26% (GOV UK, 2025). Likewise, evidence shows that PMH conditions account for almost 40% of all maternal deaths between six-weeks to one year post birth (Knight et al., 2023).

Universal screening recommendations for common PMH problems differ by country, and there are conflicting views about its importance and benefit (Milgrom & Gemmill, 2015; Reilly et al., 2020; Solutions for Public Health, 2019; Waqas et al., 2022). Determining the prevalence of PMH difficulties and/or specific conditions is further complicated by several diagnostic, methodological, contextual, and cultural factors. These include: (i) variations in clinical definitions and/or diagnostic criteria; (ii) differences in the screening tools used for assessment and their cut-off scores; (iii) inconsistent validation of screening tools in diverse populations, language barriers, and cultural adaption; (iv) timing of assessment; and (v)

access and availability of assessment in differing settings and contexts (Milgrom & Gemmill, 2015). It is important to recognise the implications of these factors in terms of underreporting or overreporting actual rates. Notwithstanding these issues, global systematic review studies of common PMH difficulties indicate that the pooled prevalence of antenatal depression is 21% (Yin et al., 2021) and postnatal depression is 17% (Wang et al., 2021). For anxiety, rates are between 15-20% in pregnancy and 10% postnatally (Dennis et al., 2017; Fawcett et al., 2019). Global estimates from population-based samples suggest that postpartum psychosis affects 1-2 in every 1,000 women who give birth (VanderKruik et al., 2017).

1.3.2 PMH investment, prioritisation and services in England

The long-term cost of PMH conditions to society in the UK is £8.1 million for every annual cohort of births (Bauer et al., 2014). In 2016, the UK government invested £365 million in specialist PMH services in England as part of the Five-Year Forward View for Mental Health (NHS England, 2016a, 2016b) and since then, they have continued to allocate recurrent funding in the NHS Long Term Plan (NHS England, 2019), which supports the Perinatal Mental Health Care Pathways guidance (NHS England, 2018). As such, substantial progress has been made in expanding access to services and improving the quality of PMH care. Evidence shows that all areas of England now have some level of PMH service provision (MMHA, 2023), and in 2023/2024 over 57,000 women received specialist support which is an increase of 30% from 2022 (NHS England, 2024). Services have also been extended to cover the full perinatal period (including care up to 24 months post birth) and offer mental health checks for partners (NHS England, 2024). Likewise, integrated care models are now being promoted to deliver more seamless collaboration between maternity, primary care, and mental health services, with an emphasis on early identification and timely intervention (NHS England, 2019). However, despite these advances, there remain ongoing disparities in

provision, particularly in underserved regions where staffing shortages and limited resources restrict access to comprehensive care (Johnson et al., 2023; MMHA, 2024; Royal College of Midwives, 2023). There are also substantial gaps in care for women who do not meet the clinical threshold for accessing specialist perinatal services (e.g., women suffering common PMH difficulties) and the demand for support of these women is increasing (Bauer et al., 2022; MMHA, 2022). Continued investment, new service models, and national policy alignment are essential to ensure equitable, effective and appropriate support for all expectant or new mothers, their babies, and families.

1.4 Perinatal suicide

Tragically, perinatal suicide is a leading global cause of death during pregnancy or within the first year after birth (Chin et al., 2022). The impact of perinatal suicide is profound. Whilst the number of women who die by suicide during the perinatal period is less than those who die by suicide in the general female population, perinatal suicides are often associated with more violent methods (which potentially reflects a higher level of intent) and there are rare cases where these deaths are accompanied by infanticide (the intentional killing of a baby) (Knight et al., 2022; Luykx et al., 2019; Spinelli & Bramante, 2022). Until recently, perinatal suicide has been an under-recognised and under-researched area within the broader context of PMH (Kobylski et al., 2023). However, efforts are now being made across the world to address this pressing and devastating issue. The UK has implemented a multi-sector approach towards reducing perinatal suicide, with pregnant and postnatal women now being recognised as a high-risk group who may be more vulnerable to suicide in the five-year suicide prevention strategy for England (GOV UK, 2023). Coupled with the expansion of specialist PMH services, and the movement towards integrated and collaborative care models, these initiatives reflect a much needed and vital step towards lessening the occurrence of

preventable perinatal suicide deaths (NHS England, 2019, 2024). However, identifying perinatal suicidality has complex challenges that arise from individual, social, clinical and systemic factors. Whilst these issues are similar to those seen in the general population, the specific nature of the perinatal period brings unique and nuanced complications that can significantly affect disclosure and timely intervention. It is crucial that the context of being pregnant and/or a new mum is taken into account in wider suicide prevention and intervention strategies, and that maternity care services are equipped with the knowledge and resources to identify and provide appropriate support to women experiencing suicidality.

1.4.1 Prevalence of perinatal suicide and suicidality

Whilst the occurrence of perinatal suicide is relatively rare, suicide is a leading cause of maternal death in many high-income countries (HICs) (Diguisto et al., 2022; Felker et al., 2024; Grigoriadis et al., 2017; Lommerse et al., 2024; Trost et al., 2022). In low- and middle-income (LMICs) countries, the prevalence of perinatal suicide is more difficult to determine due to differences in classifications and reporting systems (Simmons et al., 2024). However, research suggests that suicide is a moderate contributor to maternal deaths in these countries (Fuhr et al., 2014), although actual rates may be much higher in vulnerable groups. For example, a recent study exploring suicide in perinatal female sex workers in eight LMICs found that out of 288 suicides between 2014 to 2019, 178 of the women who died were either pregnant or within one year post birth (Macias-Konstantopoulos et al., 2024). In the UK, the latest data from Mothers and Babies Reducing Risk through Audits and Confidential Enquiries across the UK (MBRRACE-UK) show that in 2020 to 2022 16% of all maternal deaths between six-weeks to one year post birth were suicides (Felker et al., 2024). There has also been an increase in teenage maternal suicides over the past few years with a rate of 27 deaths per 100,000 births (Knight et al., 2022).

The global pooled prevalence of suicide attempts during pregnancy and after birth (across 14 countries) is estimated to be 680 per 100,000 and 210 per 100,000 respectively (Rao et al., 2021). However, there is a lack of accurate data on the prevalence of perinatal suicide attempts in the UK specifically. Given that suicide attempts occur more frequently than death by suicide in the perinatal period, and that suicide attempts are a risk factor for future fatal acts, there is a need for improved surveillance and reporting mechanisms to inform targeted interventions.

Prevalence estimates for women experiencing perinatal suicidal ideation are also difficult to determine and vary considerably. As previously outlined in regards to broader PMH conditions, there are many factors that affect reported rates of perinatal suicidal ideation and limit the comparability and/or generalisation of prevalence. These include: (i) sample type and/or characteristics (e.g., community, clinical etc.); (ii) the construct being assessed (e.g., suicidal ideation, suicidal behaviours, or suicide risk); (iii) the measure(s) used (e.g., risk assessment, screening, or diagnostic interview); (iv) differing administration modes and cut-off thresholds (e.g., clinician rated or self-reported); and (v) the timing of assessment (e.g., during pregnancy or after birth). Despite this, systematic reviews of the evidence indicate that the global pooled prevalence of suicidal ideation in the perinatal period is 7% to 8%, with rates of between 6% to 10% in pregnancy and 7% to 12% postnatally (Amiri & Behnezhad, 2021; Karaçam et al., 2024; Xiao et al., 2022). In England, recent data from two national maternity surveys show that the pooled prevalence of postnatal suicidal ideation is 4% (Despotis et al., 2025). However, it is important to recognise that the prevalence of suicidal ideation may be higher in some perinatal groups (e.g., women with comorbid mental health conditions), and research also shows that global rates of perinatal suicidal ideation increased during and after the COVID-19 pandemic (Chen et al., 2023a; Despotis et al., 2025 Hasen et al., 2023; Karaçam et al., 2024).

There remains conflicting evidence regarding whether perinatal suicidality occurs more frequently during pregnancy or after birth, although the global prevalence of maternal suicide deaths is higher postnatally (Felker et al., 2024; Grigoriadis et al., 2017; Lega et al., 2020; Lommerse et al., 2024; Trost et al., 2022; Vichi et al., 2021). There is also uncertainty about whether the perinatal period in itself acts as a protective factor against suicide (Chin et al., 2022). However, some qualitative evidence suggests that pregnancy, having a new baby, and/or additional children to care for helps some women to cope during times of suicidal distress (Praetorius et al., 2020; Tabb et al., 2013).

1.4.2 Risk factors and correlates of perinatal suicidality

Alongside the wider risk factors for suicide, there are psychological, psychosocial and biological factors that are unique to the perinatal period which can influence the development of suicidal ideation and/or suicidal behaviours, as well as a woman's overall level of suicide risk (Arditi-Arbel et al., 2023; Bright et al., 2022; Chin et al., 2022; Gelaye et al., 2016; Legazpi et al., 2022; Meurk et al., 2021; Orsolini et al., 2016; Palagini et al., 2024; Reid et al., 2022a). Risk factors for perinatal suicidality and suicide include: comorbid or previous mental health conditions (Anbesaw et al., 2021; Arditi-Ardel et al., 2023; Chin et al., 2022; de Avila Quevedo et al., 2021; Despotis et al., 2025; Hagatulah et al., 2024; Howard & Khalifeh, 2020; Lee et al., 2022; Mare et al., 2021; Orsolini et al., 2016; Yu et al., 2024); previous suicidal ideation, behaviours or attempts (Belete et al., 2021; Chin et al., 2022; Martini et al., 2019; Orsolini et al., 2016); self-harm (Johannsen et al., 2019); childhood abuse and/or adverse childhood experiences (Arditi-Ardel., 2023; Chin et al., 2022; Coelho et al., 2014; Doi and Fujiwara, 2019; Jasthi et al., 2022; Levey et al., 2019; Sit et al., 2015; Zhang et al., 2020); intimate partner violence, including physical, sexual, psychological and emotional abuse (Alhusen et al., 2015; Anbesaw et al., 2021; Arditi-Ardel et al., 2023; Asad

et al., 2010; Belete & Misgan, 2019; Gausia et al., 2009; Gelaye et al., 2016; McKelvie et al., 2021; Shamu et al., 2016; Tilahun et al., 2022); substance abuse (Chin et al., 2022; Modini et al., 2021; Santos et al., 2024; Yoon et al., 2024); pregnancy or infant loss, including miscarriage, termination of pregnancy, neonatal death, and infant removed into care (Anbesaw et al., 2021; Chin et al., 2022; Cioffi et al., 2022; Knight et al., 2021; Modini et al., 2021; Reardon, 2025; Walker et al., 2024); unplanned and/or unwanted pregnancy, or negative reaction to pregnancy (Belete et al., 2021; Despotis et al., 2025; Fellmeth et al., 2021; Ishida et al., 2010); insomnia or sleep disturbances (Anbesaw et al., 2021; Arditi-Arbel et al., 2023; Bao et al., 2021; Despotis et al., 2025; Gelaye et al., 2015, 2017; Kalmbach et al., 2020, 2021, 2022; Palagini et al., 2024; Sit et al., 2015); personality dimensions and traits (Enătescu et al., 2022; Gelabert et al., 2020; Takegata et al., 2019; Duan et al., 2019); adolescent pregnancy (Li et al., 2021; Musyimi et al., 2020); poor physical health and medical conditions (Arditi-Ardel., 2023; Friedman et al., 2016; Molla et al., 2022; Padmakar et al., 2025); pregnancy and birth related health complications, including hyperemesis gravidarum, pregnancy-induced hypertension, gestational diabetes mellitus, perineal laceration, lactational mastitis, and caesarean delivery (Bete et al., 2024; Guglielminotti & Guohua, 2020; Kim et al., 2015; Molla et al., 2022; Nana et al., 2021, 2022; Shen et al., 2023); perceived inadequacy of care during childbirth (Martínez-Galiano et al., 2025); and not feeling able to consult a maternity HCP about sensitive issues (Despotis et al., 2025).

Sociodemographic factors such as being of a non-White ethnicity, younger age, unmarried or without a partner, and living in deprivation have also been linked to perinatal suicide and suicidality (Gelaye et al., 2016; Green et al., 2023; Knight et al., 2022; Orsolini et al., 2016; Palfreyman, 2021; Salihu et al., 2022; Tabb et al., 2023). Whereas, perceived social support (including practical support and partner support) has been identified as an important mediating factor for perinatal suicidality. That is, high-levels of perceived support can protect

against suicidality, whereas low levels of support are associated with increased risk. (Arditi-Arbel et al., 2023; Despotis et al., 2025; Hagaman et al., 2024; Kubota et al., 2020; Reid et al., 2022a).

1.4.3 Adverse outcomes of suicidality for mother and baby

Notwithstanding the tragic outcome of premature death(s), perinatal suicidality is associated with serious and enduring implications for both mother and baby. These include: adverse maternal and neonatal health and obstetric outcomes (Shigemi et al., 2021; Zhong et al., 2018); preterm birth and/or low birth weight (Gelaye et al., 2019; Soares et al., 2021); infant neuropsychological and cognitive development (Martini et al., 2019; Mebrahtu et al., 2020); child behavioural and emotional development (O'Neill & Nomura, 2023); and mother-infant bonding and attachment (Faisal-Cury et al., 2021; Zhang et al., 2022). Given the number of potential risk factors associated with perinatal suicidality and the seriousness of suicidal outcomes for both mother and baby, it is vital that perinatal women experiencing suicidality are identified early and given access to appropriate support. Timely intervention may lessen the occurrence of adverse outcomes and improve the health and wellbeing of women and their babies.

1.4.4 Barriers and facilitators for identifying and supporting perinatal women experiencing suicidality

The transition to motherhood is accompanied by psychological, hormonal and socioeconomic changes which can exacerbate existing mental health difficulties or new concerns may arise. However, research suggests that up to 50% of perinatal women suffering from mental health difficulties and suicidality go undetected despite regular contact with maternity care services (Bauer et al., 2014; National Childbirth Trust [NCT], 2017). Barriers and facilitators related

to screening and assessment approaches for perinatal suicidality are discussed separately in section 1.4.5.

1.4.4.1 Perinatal women: Individual, social, and cultural factors that impact upon suicidality disclosure

There is limited research that has explored perinatal women's lived experiences of suicidality. However, some qualitative studies have helped to inform current understandings of the psychological processes that may lead to the development of suicidality in perinatal women and the factors that may prevent disclosure (Biggs et al., 2023; De Backer et al., 2024; Praetorius et al., 2020; Reid et al., 2022b; Sands Maternity Consortium, 2024; Tabb et al., 2013). As in the general population, stigma is one of the most pervasive barriers for identifying people who are experiencing suicidality. In the context of pregnancy or new motherhood, perceived and internalised stigma plays a significant and multifaceted role in creating feelings of shame, guilt, fear and failure in perinatal women with suicidality, which may ultimately deter them from sharing how they are feeling. The challenges of motherhood and loss of "self" identity (as separate from being a "mother") may create a sense of entrapment and despair, and cause feelings of failure in their role (Biggs et al., 2023; De Backer et al., 2024; Reid et al., 2022b). This negative internalisation is cast against dominant social narratives and expectations about what constitutes a "good mother", which may reinforce feelings of inadequacy and shame, and cause women to mask their distress (Biggs et al., 2023; Praetorius et al., 2020). Research shows that shame is a complicated factor in perinatal suicidality as this may also be linked to adverse past events such as childhood abuse or neglect, intimate partner violence and trauma (Biggs et al., 2023; De Backer, 2024; Sands Maternity Consortium, 2024). Likewise, the nature of being a new mother may create social isolation, which coupled with suicidality can lead to a further avoidance of opportunities for

disclosure (De Backer et al., 2024; Reid et al., 2022b; Tabb et al., 2013). Other important barriers to the disclosure and/or identification of perinatal suicidality include fear and concern that one's baby will be removed (Reid et al., 2024; Sands Maternity Consortium, 2024), cultural differences, and poor mental health literacy. That is, some women lack knowledge, recognition or understanding of PMH issues, which can hinder help-seeking behaviours (Daehn et al., 2022). Conversely, women report social support as an important mechanism for fostering coping strategies and protective behaviours against suicidality (Praetorius et al., 2020; Tabb et al., 2013), although support that diminishes the mother's role as primary caregiver and/or feels overbearing to her may heighten suicidal feelings (Reid et al., 2024). These are important considerations for exploring risk and intervention initiates for perinatal women.

1.4.4.2 Practitioner, interpersonal, and system-level factors that affect the identification of suicidality in maternity settings

There are also specific practitioner, interpersonal and system-level barriers in maternity care settings that affect HCPs attitudes, willingness and ability to ask perinatal women about suicidality, and/or impact the quality of their interactions. For example, research shows that some maternity HCPs feel apprehensive, uncomfortable, and/or lack confidence in asking pregnant and postnatal women about suicide (Lau et al., 2015; McCauley et al., 2012), which may in part be due to a lack of PMH and suicidality training and support (Bayrampour et al., 2018; Coates & Foureur et al., 2019; Holland, 2018; Savory et al., 2022). Further evidence suggests that maternity HCPs may not consider the detection of PMH difficulties and suicidality within the scope of their role (Dubreucq et al., 2024), and there is often a disproportionate focus on a woman's physical health and that of her growing foetus or baby rather than her mental health wellbeing (Dubreucq et al., 2024; NCT, 2021; Savory et al.,

2022). These issues are compounded by time constraints during appointments, high volumes of patients, and low continuity of care, which may result in PMH and suicidality questions being overlooked (Sambrook Smith et al., 2019) and affect the relationship between women and their maternity caregivers (Johnson et al., 2023).

Through the perinatal woman's lens, HCPs avoidance and hesitancy to ask about suicidality and their restrictive focus on the physical aspects of pregnancy and baby may be perceived as dismissive, and/or women may experience invalidating encounters that inhibit their resolve to share how they are feeling (De Backer et al., 2024; Sands Maternity Consortium, 2024). From the practitioner perspective, and at a systemic level, maternity caregivers may recognise the critical importance of asking about suicidality, but their ability to act on disclosures may be constrained by limited availability or accessibility of services, and/or the referral process for specialist support may be unclear (Bayrampour et al., 2018; Johnson et al., 2023; Sambrook Smith et al., 2019; Viveiros & Darling, 2019; Webb et al., 2023). These barriers may discourage HCPs from engaging in discussions about PMH and suicidality as they may feel unable to provide perinatal women with timely support, which may lead to additional psychological harm. Research also shows that approaching suicide-related conversations in a sensitive and responsive manner can foster trust and support disclosure (Richards et al., 2019a, 2019b), and that a focus on strengthening the perception of mother-infant bond may help to mitigate suicidality by reducing feelings of inadequacy (Reid et al., 2024). However, contrary to guidance that advocates discussing and assessing suicidality in the general population using direct questioning (Morriss et al., 2013), some HCPs working with pregnant and postnatal women do not feel that this approach facilitates disclosure (Reid et al., 2024).

1.4.4.3 Disclosure and maternity service barriers faced by perinatal women from different ethnic, racial, and cultural groups

Evidence suggests that pregnant and postnatal women from ethnic minority groups are more likely than White British women to face complex and multi-layered barriers and inequalities within maternity mental health services, placing them at a greater risk of enduring undiagnosed PMH difficulties and/or suicidality, and complicating their access to and experience of appropriate and culturally sensitive care (Bains et al., 2023; Conneely et al., 2023; Jankovic et al., 2020; Jovanović et al., 2024; Pilav et al., 2022). These include: (i) disclosure barriers (e.g., fear of infant removal, cultural expectations of motherhood, family, community and religious beliefs and influences, mistrust of providers due to negative previous encounters, and/or stigma and discrimination, cultural perceptions and pressure to be "strong", fear of judgement and shame); (ii) knowledge barriers (e.g., limited or no awareness of PMH or PMH services); (iii) interactional barriers (e.g., lack of cultural sensitivity or understanding of differing concepts of distress, language, translation and interpreter issues); and (iv) access barriers (e.g., complicated referral pathways, non-responsive services) (Bains et al., 2023; Conneely et al., 2023; Jankovic et al., 2020; Jovanović et al., 2024; Pilav et al., 2022). Qualitative research advocates the need for maternity HCPs and services to embed cultural sensitivity, proactive curiosity, and reflexive and reflective approaches into practice, and to work towards flexible, tailored and shared meanings of PMH to foster engagement and ensure access to equitable services for all perinatal women (Bains et al., 2023; Conneely et al., 2023; Gardner et al., 2024).

Likewise, whilst there is a growing body of research exploring the mental health experiences, barriers and needs of perinatal women from diverse ethnic, racial and cultural backgrounds, these women are often underrepresented in academic research (Bains et al., 2023), and the literature regarding perinatal suicidality in ethnic minority groups is

particularly scarce. Evidence from the USA indicates that the prevalence of suicidal ideation and suicide attempts is higher in Black pregnant women than in other racial groups (Salihu et al., 2021; Tabb et al., 2023), however there is very limited qualitative research that has explored the experiences of perinatal suicidality specifically in non-White women. This is important for understanding the unique experiences and needs of diverse perinatal populations to inform policy and practice and improve outcomes.

1.4.4.4 Disclosure and maternity service barriers among vulnerable perinatal groups

It is also important to consider the barriers and facilitators that may affect the identification of suicidality and access to appropriate support among other perinatal groups who may be more vulnerable to suicidality. These include LGBTQ+ parents and birthing persons, socioeconomically disadvantaged women, younger mothers, women with pre-existing mental health difficulties, and those with neurodivergence. The intersection of differing identities and the marginalisation occurring from this may compound exposure to stressors, stigma and structural inequalities, thereby increasing the risk of perinatal suicidality and/or hindering timely detection and intervention. The comorbidity of mental health difficulties (e.g., depression) and perinatal suicidality is discussed in section 1.4.5.1 of this thesis.

Systematic review findings suggest that LGBTQ+ parents and birthing persons often experience stigma, exclusion from traditional pregnancy care, and heteronormativity in maternity contexts which can significantly impact PMH and engagement with services (Kirubarajan et al., 2022). Likewise, ONS (2025) figures for England and Wales show that the risk of suicide for people identifying with an LGB+ orientation is over 2.2 times higher than for people who identify as ‘straight or heterosexual’, which further underpins the need for inclusive care to be embedded within maternity services. Strategies to improve experiences and outcomes for LGBTQ+ parents and birthing persons include HCPs training,

use of correct pronouns and non-gendered language, and trauma-informed person-centred practice (Greenfield et al., 2025).

Evidence also indicates that younger maternal age increases the risk of PMH difficulties and suicidality, and that socioeconomic factors such as low-income and/or financial insecurity and poorer education and employment opportunities often compound the challenges that younger mums face, leading to decreased help-seeking behaviours and reduced access to services (Knight et al., 2022; MMHA, 2023a). The Maternal Mental Health Alliance (MMHA, 2023a) reports that stigma and judgement are key disclosure barriers for younger mums and they have identified four priority areas of action to better support their PMH needs: (i) listen and respond to the needs of young mothers in national and local systems; (ii) resource and invest in universal and preventative services; (iii) ensure access to specialist mental health services; and (iv) research and listen to the voices of young mums.

Whilst research exploring neurodivergence and perinatal suicidality is limited, emerging work suggests that neurodivergent women are more likely to experience co-occurring PMH difficulties (Pohl et al., 2020) and are at an increased risk of suicide during the perinatal period (Spence, 2024). Qualitative findings have highlighted the unique challenges faced by perinatal women with autism and ADHD in maternity settings, which include communication difficulties, adverse encounters with HCPs, and sensory stress and demands (Elliott et al., 2024; Westgate et al., 2024). Neurodivergent women report feeling judged, misunderstood, and/or dismissed by HCPs which can negatively impact their care experiences and exacerbate PMH and suicidality (Elliott et al., 2024; Westgate et al., 2024). It is important that maternity services recognise and integrate neurodiversity-affirming practices and tailored support into current care systems to meet the needs of neurodivergent perinatal women and reduce negative outcomes.

1.4.5 Screening and assessment for perinatal suicidality

Comprehensive screening for PMH difficulties and suicidality is not currently conducted in UK maternity care (Solutions for Public Health, 2019). Instead, NICE (2014) guidelines recommend that maternity HCPs ask pregnant women about depression and anxiety at their first antenatal booking appointment (as part of a broader conversation about their mental health and wellbeing) using the Whooley questions (Whooley et al., 1997) and/or the General Anxiety Scale-2 (GAD-2) (Kroenke et al, 2007; Spitzer et al., 2006). If a woman positively endorses any of these questions, then further inquiry can be made using screening measures such as the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987) or PHQ-9. However, the suicide prevention strategy in England (GOV UK, 2023) has encouraged the use of mental health screening in pregnancy and during the first year after birth, and suggested that all professionals who work with pregnant and postnatal women should actively seek to identify common risk factors for perinatal suicidality at every point of contact.

Generally, pregnant and postnatal women are not asked about suicidality and/or self-harming behaviours in primary maternity care unless there is a pretext for it (e.g., self-disclosure, prior known history of suicidality and/or harming behaviours, or if the woman is already receiving specialist PMH support), and to date, no screening measure has been specifically designed to identify suicidality in perinatal women. Likewise, there is no universally standardised approach for how to identify perinatal suicidality in these settings. Often, perinatal suicidality and/or self-harm is identified using wider measures that screen for common mental health conditions (such as depression or anxiety), although there are limitations to this approach which are discussed further in the following section of this thesis. Other methods for identifying perinatal suicidality include clinical or diagnostic assessment (e.g., the Structured Clinical Interview for DSM-IV disorders [SCID], First & Gibbon, 2004)

or a comprehensive biopsychosocial risk assessment, although these would normally occur as part of or after a referral to specialist PMH services. However, as discussed earlier in this thesis, these types of risk assessments should always be tailored to the individual to explore their personal needs, vulnerabilities and circumstances, and should never be used to stratify risk or determine who is given treatment or not (NHS England, 2025; NICE, 2022a).

1.4.5.1 Screening for perinatal suicidality in the context of other mental health conditions

Evidence shows that there is a high level of comorbidity between perinatal suicidality and other mental health conditions (Chin et al., 2022; Howard & Khalifeh, 2020), with depression being the most prevalent and a known risk factor for suicide (Hagatulah et al., 2024; Yu et al., 2024). Because of this, screening for depression (and/or other common mental health conditions) has become a proxy for identifying perinatal suicidality in both clinical practice and in research contexts. Self-report measures such as the EPDS or the Postpartum Depression Screening Scale (PDSS) (Beck & Gable, 2000) have been specifically designed for use with perinatal women, and both include items which ask about self-harm and/or suicidal ideation. Sometimes more general measures are also used, including the PHQ-9. However, whilst the use of depression screening measures can be beneficial as a starting point for identifying distress and/or for normalising conversations about PMH, it is important to recognise the limitations and implications of this approach for identifying perinatal suicidality. Foremost, although suicidality can be a symptom of depression, and/or the two may coincide, these are separate conditions (Fehling & Selby, 2021). That is, perinatal suicidality and suicide can occur without depressive symptoms or a clinical diagnosis, and vice versa (Arditi-Arbel et al., 2023; Chen et al., 2023b; Despotis et al., 2025; Garman et al., 2019a; Knight et al., 2022; Onah et al., 2017). Hence, using depression measures alone may underestimate the true prevalence of suicidality, and/or cases may be missed if women score

below the threshold for depression (Onah et al., 2017; Zhang et al., 2022) (although best practice is to follow up with all women who endorse suicidality on any screening measure, irrespective of cut-offs). Likewise, if the endorsement of suicidality is used as marker for depression, then some women may be incorrectly classified. Research also suggests that the EPDS with the exclusion of the suicidality/self-harm item performs equivalently to the full scale in detecting depression among pregnant and postnatal women, which has implications for the utility of item-10 as an indicator for depression (Chen et al., 2023c; Qiu et al., 2023; Stefana et al., 2024a, 2024b).

Furthermore, given that suicidality is a multifaceted phenomenon, there are clear limitations of using a single item embedded within a depression screen to capture the complexity of different suicidal states (i.e., suicidal ideation, suicidal plans, suicidal intent, suicidal behaviours, and suicide attempts).

1.4.5.2 Synonymous use of self-harm and suicidality in screening items

NICE (2025) defines self-harm as "an intentional act of self-poisoning or self-injury, irrespective of the motivation or apparent purpose of the act, and is an expression of emotional distress". Within this definition both suicide attempts (intent to die) and non-suicidal self-harm (no intent to die) are included. However, whilst suicidality and non-suicidal self-harm have overlapping components, and self-harm is a risk factor for perinatal suicide (Johannasen, 2019), these are also distinct phenomena with different motivational bases and varying levels of risk (Nock, 2010; Whitlock et al., 2015). Due this broad definition, there are significant clinical implications for assessing suicidality with screening measures that use terms such as "self-harm" or "harming" or "hurt" as these do not necessarily discern intent. For example, item-10 from the EPDS scale reads "the thought of harming myself has occurred to me", and endorsement of this item is often assumed to be an

indicator for suicidal ideation (Xiao et al., 2022). This item is also widely used in research to specifically identify and/or assess the presence and/or prevalence of suicidal ideation in perinatal women (e.g., Chen et al., 2023b; Despotis et al., 2025; Howard et al., 2011; Kubota et al., 2020; Martínez-Galiano et al., 2025; Xiao et al., 2022). However, because this item does not distinguish between self-harm and suicidal ideation, there is a significant risk that endorsement may cause false positive or false negative results, depending on the phenomena of interest (i.e., if a woman endorses item-10 due to thoughts of non-suicidal self-harm, but it is assumed she has suicidal ideation, or vice versa). Research also shows that some women are confused by the wording of this item and may interpret "harming myself" to mean non-suicidal self-harm or unintentional, accidental harm and not active suicidal ideation or a passive wish to die (Brealey et al., 2010; Kim et al., 2015), and there may be cultural and/or linguistic differences in its meaning (Kim et al., 2015; Kumar et al., 2015; Montazeri et al., 2007). Therefore, the use of this item (and similarly worded items on other screening measures) for the identification of perinatal suicidality has important limitations in both clinical and research settings. In the maternity context, cases may be missed or perinatal women may be incorrectly referred to specialist services. Hence, consideration needs to be given to the sensitivity and specificity of screening measures. That is, whether to maximise sensitivity in these settings to capture either or both suicidal ideation and non-suicidal self-harm, or whether to assess these as separate constructs. Likewise, in terms of research, using these types of screening items may overestimate or underestimate the true prevalence of suicidal ideation in pregnant and postnatal women (Pope et al., 2013). In light of these implications, it is important to exercise caution when interpreting responses to item-10 from the EPDS and similar items on other measures, and to make further inquiry about the nature of what 'harming, self-harm, hurt (etc.)' means to any woman who endorses it.

1.4.5.3 Psychometric validity and reliability of measures

There is limited research that has examined the validity and/or reliability of measures that are used to identify or assess suicidality in perinatal women. Some individual studies have reported psychometric properties for suicide-related items embedded within wider measures of mental health, distress or wellbeing (e.g., Doi et al., 2024; Goller et al., 2024; Howard et al., 2011; Newport et al., 2007; Zhong et al., 2015) but very few have purposely sought to validate specific suicide measures in perinatal populations (Martínez-Galiano et al., 2024). Sambrook Smith et al. (2022) conducted an umbrella review examining the psychometric properties of tools that have been validated to identify common mental disorders in perinatal women, but this did not provide specific information about the reliability or validity of the suicide and/or self-harm items that are embedded within them. Given that no measure of suicidality has been specifically designed for use with pregnant and postnatal women, it is important to determine whether the current measures for identifying perinatal suicidality have been: (i) sufficiently validated in perinatal samples; (ii) demonstrate sound psychometric properties; and (iii) can discriminate between women who may need urgent acute care, or care in the community. Likewise, since the identification of perinatal suicidality is often conducted in the context of screening for depression, it is also important to determine whether suicidality items embedded within these measures can be used as standalone indicators (e.g., as part of a stepped approach) for further comprehensive biopsychosocial assessment, and if they have been suitably validated for this purpose.

1.4.5.4 Content validity and acceptability of measures

Evidence regarding the content validity and acceptability of screening measures that are used for identifying suicidality in perinatal women is sparse. These are important measurement properties to examine as they can significantly influence a tool's appropriateness and uptake.

Content validity typically involves evaluating how accurately a measure reflects the intended construct(s), with particular focus on its relevance, comprehensiveness, and comprehensibility to the population being assessed (Terwee et al., 2018). Equally, any measure that is used with perinatal women needs to be acceptable to them, and to the practitioners who administer them. As such, acceptability is increasingly being recognised as a key consideration in the successful implementation of PMH screening approaches and the effectiveness of measures (El-Den et al., 2015; Littlewood et al.,2018; Meades et al., 2024; Yapp et al., 2019).

Alongside the limitations of using depression screening to identify perinatal suicidality, and the interchangeability of using suicidal and/or self-harming terms, there may also be implications related to the specific content and wording of items. For example, the compound question “Have you had thoughts that you would be better off dead or of hurting yourself in some way” (PHQ-9, item-9) presents interpretive and clinical challenges because it combines both passive thoughts of death and active thoughts of hurting oneself in a single item (Zhong et al., 2015). Respondents of this item may be confused about how to answer this item, and/or they may endorse it for different reasons, which limits the interpretation of a positive score and may lead to cases being missed. Qualitative research has also indicated that the wording of this item may not match peoples lived experience of suicidality (Richards et al., 2019a), and perinatal women from LMICs may be cautious about answering it due to cultural and religious beliefs (Velloza et al., 2020), and/or find the wording uncomfortable (Fellmeth et al., 2023). This highlights the importance of using culturally sensitive and appropriate language for women from different ethnic, racial and cultural backgrounds. Given the stigma surrounding suicide, and the complex barriers that may prevent perinatal women from disclosing suicidality, it is important to ensure that the phrasing and content of suicide-related items do not incite fear or perpetuate defensive responses. Likewise, HCPs who

administer suicidality screening measures to perinatal women need to feel comfortable and confident with the content (and how to sensitively respond to positive endorsement), else they may avoid using them, or phrase questions in a way that elicits a closed and/or negative response (McCabe et al., 2017, 2023).

1.4.5.5 Feasibility of using perinatal suicidality screening measures in routine maternity care

In busy maternity care services, HCPs face multiple pressures including time constraints, high patient volumes, limited resources, and staff shortages (Bayrampour et al., 2018; National Maternity Review, 2016). Mental health screening measures offer a pragmatic solution in these settings as they are typically brief, easy to administer, and applicable across healthcare contexts (e.g., GPs, midwives, health visitors). Whilst this thesis has outlined important limitations of using screening measures to identify perinatal suicidality, this approach may have some utility as an initial indicator of perinatal women requiring support. Benefits include: (i) normalising conversations and reducing stigma around PMH and suicidality; (ii) offering HCPs a practical tool to support engagement and confidence; and (iii) promoting standardised approaches to identification. This may lead to more timely, appropriate interventions and improved outcomes for mother and baby. However, it is also important that HCPs understand screening as part of a stepped-care model (Carter et al., 2025), and do not solely rely on them to enquire about women's mental health. Evidence suggests that screening tools can feel like "tick-box exercises" if they are not administered as part of a wider supportive conversation, which can depersonalise care and hinder disclosure (Nagle & Farrelly, 2018; RCOG, 2017; Yuill et al., 2023). Conversely, using a women-centred approach to screening, which is informed and enables open dialogue can be a useful modality for identifying and discussing PMH and suicidality with perinatal women (Nagle & Farrelly, 2018; RCOG, 2017; Yuill et al., 2023).

1.5 Rationale, aims, and objectives

1.5.1 Rationale

This overview has highlighted important gaps in the literature regarding the identification of suicidality in pregnant and postnatal women. Specifically, there is a lack of research that has explored screening and assessment approaches for perinatal suicidality in maternity care from both women's and HCPs perspectives. There is also a lack of evidence regarding the validity and reliability of measures that may be used for this purpose in clinical and research settings. Given that suicide is a leading cause of death in pregnant and postnatal women, and that the outcomes of suicidality have significant adverse effects for mother, baby and wider family, it is crucial that acceptable, appropriate, feasible and effective methods for identifying perinatal suicidality are established to enable timely support for those who require it. There is also a need for perinatal specific measures to be developed that are supplementary to screening tools for depression and/or other mental health conditions, and that can be used to support the initial identification of suicidality. Such measures may help to: (i) overcome some of the limitations and implications discussed in this thesis; (ii) support HCPs engagement in conversations about suicide with perinatal women; and (iii) standardise current approaches to the initial identification of women who may require referral to specialist perinatal care and/or comprehensive biopsychosocial assessment.

1.5.2 Aim

The overall aim of this research was to determine acceptable, appropriate, and clinically relevant approaches for identifying and discussing suicidality with pregnant and postnatal women in the context of maternity care.

1.5.3 Objectives

To achieve this aim, the following objectives were created:

1. Review and synthesise the existing evidence on measures used for identifying suicidality in perinatal women and evaluate their psychometric properties
2. Explore the views and attitudes of perinatal women and HCPs regarding the acceptability, content validity, and utility of different existing suicidality screening items
3. Explore the views and experiences of perinatal women and HCPs regarding the barriers, facilitators, and implications that affect the identification and/or disclosure of suicidality in maternity care settings
4. Use consensus methods to evaluate the content validity, acceptability and potential utility of new and adapted suicidality items to inform current approaches for identifying perinatal suicidality and support the development of perinatal specific suicidality measures

To achieve these objectives, one systematic review and three empirical studies were conducted. The findings from these studies are reported in five articles, which form Chapters 3 to 7 of this thesis. Table 1.3 gives an overview of the articles, including their specific aims or research questions and how these map onto the thesis objective(s).

Table 1.3 Overview of articles included in this thesis

Article	Chapter	Article aims or research questions	Thesis objective(s) addressed
1. Measures of suicidality in perinatal women: A systematic review *(Study 1)*	3	Research questions (i) What measures are used to assess suicidality in perinatal women? (ii) What are the psychometric properties of measures that have been validated in perinatal populations?	1
2. Acceptability and content validity of suicidality screening items: A qualitative study with perinatal women *(Study 2)*	4	Aims (i) Assess the acceptability and content validity of 16 different suicide-related items that have been administered or validated in perinatal populations using the Theoretical Framework of Acceptability (TFA) (ii) Explore the potential barriers and facilitators that may affect how women respond to these items when they are administered during pregnancy and after birth	2,3
3. Perinatal women's views and experiences of discussing suicide in maternity care settings: A qualitative study *(Study 2)*	5	Aims (i) Explore perinatal women's views and experiences regarding the barriers, facilitators, and implications of identifying and disclosing suicidality in maternity care settings (ii) Explore perinatal women's thoughts and ideas about the most appropriate approaches for healthcare practitioners to take when asking about suicidality during pregnancy or after birth	3
4. Attitudes, experiences, and implications of asking about suicide during the perinatal period: A qualitative study with maternity healthcare practitioners *(Study 3)*	6	Aims (i) Explore maternity healthcare practitioners' attitudes towards 16 suicide-related screening items that have previously been used and/or validated in perinatal populations (ii) Explore maternity healthcare practitioners' broader views, experiences and implications of discussing suicide with women in maternity care settings	2,3
5. Questionnaire items to identify suicidality in perinatal women: A Delphi study *(Study 4)*	7	(i) Determine the content validity, acceptability, and potential clinical utility of 22 suicide-related items that have been adapted and/or specifically designed for use with perinatal women, using a Delphi consensus methodology	4

1.5.4 Anticipated value and contribution of thesis

The anticipated value and contribution of this research is five-fold: (i) it will provide an understanding of appropriate and clinically relevant approaches for discussing perinatal suicidality which appear acceptable to both women and HCPs, and practical to implement into different maternity care settings; (ii) it will generate new knowledge regarding the unique barriers, facilitators and implications for discussing and identifying suicidality in maternity care settings; (iii) this may help HCPs to identify perinatal women who are experiencing suicidality early, which increases the chances for intervention; (iv) appropriate and timely intervention could reduce the morbidity, mortality and other adverse outcomes associated with perinatal suicide and suicidality; and (v) this knowledge will advance scholarship and can be used to inform future policy and practice, and the development of perinatal specific suicidality measures.

2 Methodology

2.1 Chapter overview

This chapter provides an overview of the methodological approach taken in this thesis research. Specific details of the methods used for each study are described in the relevant Chapters (3 to 7), but the broader rationale and justification for these choices are discussed here. The participants involved in the empirical studies are then briefly outlined, and consideration is also given to ethical concerns and procedures specific to this research. The chapter ends with a reflexive account about the researcher's positionality.

2.2 Philosophical approach to thesis research

Philosophical approaches to research, or "research paradigms", are foundational belief systems or worldviews that guide how researchers understand the world (*ontology*), the nature of knowledge and how it can be known (*epistemology*), and how such knowledge can be acquired (*methodology*) (Guba, 1990; Lincoln et al., 2018). Research paradigms shape and influence the choice of research questions, methodology, data collection and interpretation, and likewise, different paradigms generally govern different types of research (Lincoln et al., 2018; Robson & McCartan, 2016). In the context of modern research, the concept of "paradigms" emerged through the seminal work of Thomas Kuhn (1962), who argued that scientific progress is not a linear accumulation of knowledge. It is instead disrupted by anomalies that cannot be explained by dominant worldviews, leading to scientific revolutions or "paradigm shifts" (Kuhn, 1962). Whilst wider discussion and debate of distinct paradigms (and to some extent "perspectives", Denzin & Lincoln, 2018) is beyond the scope of this thesis, it is important to acknowledge the philosophical basis and methodological approach of the research conducted here (Creswell & Creswell, 2023; Robson & McCartan, 2016). As

such, three key paradigms in the health and social sciences are considered: positivism, interpretivism, and pragmatism.

Originating from the hard sciences, positivism assumes there is one fixed reality, and that knowledge can only be obtained through objective observation and measurement (Robson & McCartan, 2016). Positivists inherently employ quantitative methods with a focus on experimental research to uncover universal truths. Here, the researcher is thought to remain independent to the research and/or phenomenon of inquiry (Robson & McCartan, 2016). Post-positivism later recognised the nature of knowledge as fallible, and researcher bias as inevitable (Philips & Burbules, 2000). Hence, whilst maintaining an epistemological lens of objective reality, the post-positivist movement emphasised falsification (as opposed to verification) of theories and hypothesis through critical and rigorous assessment (Creswell & Poth, 2018; Philips & Burbules, 2000; Robson & McCartan, 2016). Conversely, and in response to the limitations of positivism, interpretivism (or constructivism) argued that reality is subjective and constructed by meaning-making and lived experiences of the individual (Lincoln et al., 2018). Interpretivists draw upon qualitative methods to explore complex and nuanced phenomena that locate the observer in world and make that world visible (Creswell & Poth, 2018). Likewise, the researcher is not detached (e.g., positivist stance), but rather they are active, engaged and reflexive in the research process and interpretation of findings, and acknowledge their positionality (Creswell & Poth, 2018).

It follows then that the ontological and epistemological stances of positivism and interpretivism, and the research methods with which they are associated (quantitative vs qualitative) can be understood as sitting at opposing ends of a continuum (Bryman, 2006). This tension led to “paradigm wars” during the 1970s to 1990s whereby the two positions were seen as incompatible and incommensurable (Maarouf, 2019). However, since then many researchers have rejected this view, leading to the emergence of “mixed methods” research

which acknowledges the value of both quantitative and qualitative data for addressing complex phenomena. As Creswell and Plano Clark (2018) state: “Mixed methods research provides a way to harness strengths that offset the weaknesses of both quantitative and qualitative research” (p.12). Whilst this approach offers a practical solution for the development of research designs, the dilemma of mixed methods research in terms of philosophical legitimacy or paradigms and worldviews cannot be overlooked (Creswell & Plano Clark, 2018; Maarouf, 2019).

Arising from the works of Peirce, James, Mead and Dewey (Cherryholmes, 1992), the philosophy of pragmatism has gained popularity within the health and social sciences because it bridges the divide between positivist and interpretivist positions and embraces the utility of methodological pluralism (Gillespie et al., 2024). For the pragmatist, truth and meaning are provisional, contingent and evaluated by their practical utility for addressing complex real-world problems (Gillespie et al., 2024). That is, pragmatism centralises the phenomenon of interest, enabling researchers to adopt the most appropriate and effective methods for answering the research question(s), essentially doing ‘what works’ (Creswell & Plano Clark, 2018; Gillespie et al., 2024; Maarouf, 2019). Thus, pragmatism overcomes some of the broader contentions around traditional dualisms, although this does not imply that the pragmatic approach lacks a theoretical foundation. Instead, it allows researchers to meaningfully integrate both quantitative and qualitative assumptions and methods by embracing ontological intersubjectivity e.g., recognising the existence of the natural or physical world, whilst also acknowledging how individuals differ in their interpretation of it, and by taking an epistemological stance whereby knowledge may be both observable and unobservable, depending on context and the practical value of how such knowledge can be obtained (Creswell & Plano Clark, 2018; Gillespie et al., 2024; Maarouf, 2019). In this way,

pragmatism offers a flexible and action-oriented philosophical foundation for researching complex, sensitive and critical issues such as perinatal suicidality.

Based on the assumption that knowledge should be judged by its usefulness and capacity to address real-world problems, a pragmatic approach is particularly suited to achieving the aim of this thesis research for the following reasons: (i) suicidality is a complex phenomenon, hence understanding the factors that may inhibit or facilitate the disclosure and/or acceptable identification of suicidality in pregnant and postnatal women requires the integration of different forms of data collection and analysis; (ii) data will be collected from multiple perspectives (perinatal women, maternity healthcare practitioners, experts in relevant fields) which strengthens and triangulates the knowledge produced; (iii) this increases the relevance and impact of the research for those whom it seeks to benefit; and (iv) the findings of this thesis research will have real-world applicability in terms of informing and improving current practice and policy, advancing scholarship, and supporting the work of VCSE sectors.

2.3 Mixed methods research

As aforementioned, mixed methods research has become increasing popular in the health and social sciences due to the ability to combine qualitative and quantitative methods to answer complex questions (Creswell & Plano Clark, 2018). However, this approach has also received criticism for lacking adequate justification, for not sufficiently reporting methodological choices, and for not demonstrating how different components inform one another and/or are integrated (Adu et al., 2022; O'Cathain et al., 2008; Östlund et al., 2011). The following sections of this thesis (and the published articles that comprise Chapters 3 to 7) aim to overcome some of these limitations by clarifying the type and process of the mixed methods

approach taken, and by providing a brief rationale for the specific methods used within each study.

This thesis research adopted an exploratory sequential mixed method design (Creswell & Creswell, 2023; Creswell & Plano Clark, 2018), based upon a pragmatic philosophy. As stated previously, methodology is shaped by the researcher's ontological and epistemological stance, which are embedded within their wider philosophical worldview (or research paradigm). Likewise, methodology should align with the aims of the research, choice of data collection and analysis. Here, both qualitative and (to a lesser degree) quantitative methods were used to provide a comprehensive understanding of the phenomenon of inquiry. The qualitative phases of this research (Studies 2 and 3) were important to enable a rich and meaningful exploration of suicidality assessment and screening measures from the perspective of those whom this research seeks to benefit (perinatal women and healthcare practitioners who work with perinatal women). The latter quantitative components (Study 4) supported the generation of item consensus rankings to inform current approaches to suicidality screening, and the preliminary development of perinatal specific measures. By using a sequential exploratory mixed methods design, each study in this thesis supported and built upon the findings of the previous study to generate cumulative evidence, with a clear rationale for addressing the overall research aim.

2.3.1 Systematic review

Systematic reviews synthesise existing research evidence using structured, transparent and reproducible methods. They provide one of the highest levels of evidence in health sciences (alongside randomised control trials [RCTs] and systematic reviews of RCTs) for informing clinical-based decision making, policy, and practice (Polit & Beck, 2022). To address the overarching aim of this thesis research, it was first necessary to determine which measures

have been used for identifying and/or assessing suicidality in perinatal women and to evaluate their psychometric properties (*Objective 1*). This is important for ascertaining whether measures are valid, reliable, and clinically useful for identifying suicidality in this specific group. It is also a critical step for informing the adaption and/or development of new measures (Boateng et al., 2018; Stefana et al., 2025). Following a scoping search, no such systematic evidence of suicidality measures with perinatal women was identified in the existing literature. Therefore, a systematic review was warranted, although heterogeneity of the included studies precluded the scope for meta-analysis.

2.3.2 Qualitative methods

Qualitative research methods are used to explore and gain in-depth insight into people's experiences, perspectives and meaning-making concerning a particular topic. There are a variety of qualitative methods that can be used for data collection and data analysis. However, it is important that the methods adopted are suitable for addressing the specific questions and aims of the research, within its wider philosophical and theoretical framework (Denzin & Lincoln, 2018). When choosing the qualitative methods for this thesis research, five approaches were considered: discourse analysis, interpretative phenomenological analysis (IPA), grounded theory, content analysis and thematic analysis. These approaches are briefly outlined below with consideration to their appropriateness for addressing *Objectives 2* and *3* of this thesis research.

2.3.2.1 Discourse analysis

Grounded in social constructivism and post-structuralism, discourse analysis focuses on the study of language and the way in which it constructs social realities, identities and power relations within specific cultural and historical contexts (Willig, 2013). This approach

prioritises how language positions and constructs meaning through social narratives (often using methods such as textual analysis), as opposed to exploring how individuals use language to express their inner "cognitions" (Peräkylä & Ruusuvuori, 2018; Willig, 2013). That is, discourse analysis assumes that individuals do not simply describe their experiences and thoughts using language, but instead, actively construct their social world through language. As such, discourse analysis is best suited to research that seeks to explore social, cultural and/or institutional discourses, and how these influence individual and collective behaviour, identity and ideology (Fairclough, 1993, 2010).

Whilst this approach may have some value for examining how the language around perinatal mental health (PMH) and suicidality can construct and reinforce certain dominant societal narratives (e.g. what constitutes the "good mother") and silence others, it would not provide relevant insight into which suicidality measures perinatal women and healthcare practitioners (HCPs) may find acceptable and/or useful in practice (*Objective 2*), nor would it allow for an in-depth exploration of the perceived barriers and facilitators that may implicate the disclosure and/or identification of perinatal suicidality in maternity care settings (*Objective 3*).

2.3.2.2 Interpretative phenomenological analysis (IPA)

Drawing upon phenomenology, hermeneutics and idiographic approaches, interpretative phenomenological analysis (IPA) is a qualitative research method that explores how individuals perceive their lived experiences in relation to a phenomenon of interest (Smith et al., 1999). This approach is underpinned by the belief that there is no one objective truth, but rather there are multiple realities which are shaped by personal perceptions and contextual factors (Larkin et al., 2006). Data for IPA are typically collected using semi-structured interviews, from a small purposively selected sample. Here, the depth and detail of individual

participant data is prioritised (e.g., case-by-case), before moving to identify patterns and themes across all accounts (Willig, 2013). This allows the researcher to access a participant's lifeworld whilst engaging in a "double hermeneutic". That is, an iterative and interpretative process whereby the researcher tries to make sense of the participant, who is themselves trying to make sense of their own lived experience (Smith et al., 2009). As such, IPA acknowledges the co-construction of knowledge and meaning throughout the analytic process (Larkin et al., 2006).

However, whilst the principles of IPA generally align with pragmatic approaches to research (i.e., importance placed on lived experiences for generating knowledge that can be applied in real-world contexts), this method does not seek to identify people's opinions about a phenomenon (Smith et al., 2009; Willig, 2013). Instead, the central focus of IPA is on individuals' sense- and meaning-making of a specific phenomenon they have experienced. When considering the qualitative aspects of this thesis research, the purpose of *Objective 3* was to gain comprehensive insight into participants' views and/or experiences regarding the barriers, facilitators and implications for discussing and/or identifying perinatal suicidality in maternity care settings, but not to understand how participants conceptualise their lived experience of perinatal suicidality per se (although this was not explicitly avoided or excluded). Given this focus, IPA was not considered to be a suitable or appropriate method for analysing this qualitative research.

2.3.2.3 Grounded theory

Grounded theory was developed by Glaser and Strauss (1967) who argued for an inductive process of theory generation that emerges directly from empirical data itself (as opposed to hypothesis driven, deductive approaches). Whilst grounded theory originated in a sociological context, several distinct strands have since been developed with differing

ontological and epistemological perspectives (e.g., Strauss & Corbin, 1998; Charmaz, 2014). However, all versions share several core methodological features. Here, participants are purposively selected due to their direct experience with, or relevance to, the phenomenon of interest. New participants are recruited through "theoretical sampling" as the research evolves to refute or support the emerging theory (Willig, 2013). Data collection and data analysis occur simultaneously (and iteratively), and data is collected and compared until theoretical saturation is reached (i.e., when no new themes are identified) (Willig, 2013).

Given that the primary goal of grounded theory is to generate a new theory, it does not align with the aims and qualitative objectives of this thesis research (*Objectives 2* and *3*). These objectives are evaluative and exploratory in nature, focusing on how existing suicidality measures, practices and experiences are perceived by perinatal women and HCPs in maternity care settings. The qualitative research here sought to inform the refinement, selection and/or development of perinatal specific suicidality measures and approaches, and to understand wider practical issues, rather than build a comprehensive theory of perinatal suicidality or its social processes.

2.3.2.4 Content analysis

Content analysis was originally developed to examine the content of communication using quantitative descriptions (e.g., counting codes) (Krippendorff, 2019; Mayring, 2014). Content analysis differs to discourse analysis because it focuses on identifying patterns and/or themes in text, as opposed to examining how language constructs meaning, identity and power relations. Qualitative content analysis has become popular in the health and social sciences because it offers a systematic and flexible method to interpret meaning from textual, visual or audio data (Hsieh & Shannon, 2005). It involves coding data into categories based on either predefined (deductive) or emergent (inductive) frameworks to identify patterns, frequencies,

and/or relationships within it (Schreier, 2012). Qualitative content analysis moves beyond simple word counts to categorise large volumes of structured or unstructured text into meaningful groups that reflect underlying themes (Hsieh & Shannon, 2005). As such, this method aligns with a pragmatic mixed-methods approach (Mayring, 2014; Ramanadhan et al., 2021).

The purpose of *Objective 2* was to determine the acceptability, content validity and utility of different existing suicidality screening items to perinatal women and HCPs. Qualitative content analysis fits well with this objective because it allows for the systematic exploration and interpretation of qualitative data in relation to the topic of interest (i.e., participants' views on different suicidality items). This method is particularly useful for examining how participants perceive the clarity, relevance, comprehensiveness and usefulness of different suicide items using both deductive and inductive approaches. Hence, qualitative content analysis and framework analysis (Ritchie & Spencer, 1994) was used in Article 2 (Chapter 4), and to a lesser degree in Article 4 (Chapter 6) of this thesis research. Likewise, some qualitative content analysis was also used to address *Objective 4* (Article 5, Chapter 7) as part of a consensus method which is described further in section 2.3.3.

2.3.2.5 Thematic analysis

Thematic analysis is a widely used method for identifying, analysing, and reporting patterns or themes in qualitative data. Unlike methods that are rooted in specific theoretical traditions (e.g., IPA or grounded theory), some approaches to thematic analysis are "theoretically flexible", meaning they can be applied across a range of epistemological and ontological positions (to a certain extent), depending on the research aims and objectives (Braun & Clarke, 2019). Likewise, thematic analysis can be conducted inductively (data driven) or deductively (theory driven), but it is important that researchers choose an approach that is

methodologically and theoretically sound (Braun & Clarke, 2021, 2023). Notably, Braun and Clarke (2019, 2021) advocate for reflexive thematic analysis which emphasises the active role of the researcher in theme development, and prioritises subjectivity, contextuality and reflexivity throughout the research process.

Given the above, Braun and Clarke's (2006, 2019) approach to thematic analysis was deemed appropriate for addressing *Objective 3* of this thesis research for the following reasons: (i) it is a flexible qualitative approach that can align with pragmatic mixed-methods research; (ii) it allows for an in-depth and inductive exploration of participants' views and experiences of discussing and/or identifying perinatal suicide in maternity care settings that is not constrained by a pre-existing framework; (iii) this means that the themes identified will closely reflect the data collected which is important for addressing the aim, objectives and real-world applicability of this research; and (iv) the emphasis on researcher reflexivity ensures that data analysis remains sensitive to the complexity of the topic.

2.3.3 Consensus methods

Consensus methods are systematic research approaches that utilise collective and/or stakeholder opinions to explore complex phenomenon and/or answer empirical questions where research evidence is limited (Fink et al., 1984; Jones & Hunter, 1995; King et al., 2023). They aim to achieve agreement (or "consensus") on a given topic and are widely used in health research and policy development to inform guidelines, establish research priorities, and evaluate and/or develop measurement tools (Caudle et al., 2025). Consensus methods align with pragmatic approaches to inquiry because they generate coproduced, practical, and actionable knowledge that is applicable to real-world problems and responsive to the needs of particular groups (Brady, 2015). They also produce both quantitative (e.g., summed rating scores) and qualitative (e.g., participant ideas, views and feedback) data that sits well within

mixed-methods research (King et al., 2023). Two commonly used consensus methods are the nominal group technique (NGT) and the Delphi method. These approaches are briefly outlined below with consideration to their appropriateness for addressing *Objective 4* (Article 5, Chapter 7) of this thesis research.

2.3.3.1 Nominal group technique (NGT)

NGT is a structured focus group interaction method that is used to gather opinions, ideas and information on a specific topic with the aim of generating consensus and/or priorities for research or policy (Harvey & Holmes, 2012). This technique was originally developed by Van de Ven and Delbecq (1972) and is most suited to garnering problem-focussed outcomes in response to a predetermined exploratory question, in a relatively short timeframe (e.g., usually one session lasting a few hours) (McMillan et al., 2016). NGT does not readily lend itself to the assessment of content validity for measurement items, although it could be used in the initial phase of scale development for identifying domain(s) and generating preliminary items prior to evaluation (Boateng et al., 2018; Caudle et al., 2025). NGT is typically conducted in face-to-face settings with a small number of invited participants who have expertise and/or knowledge in the area of inquiry (Van de Ven & Delbecq, 1972). A central tenet of NGT is direct and dynamic participant involvement whereby all group members are required to contribute their own views. Whilst this encourages equal participation, there is a risk that power differentials, dominant views and/or groupthink may bias the process despite its structured process (King et al., 2023). Likewise, NGT requires physical (or occasionally, synchronous online) presence which is less practical for large and/or geographically dispersed groups (McMillan et al., 2016).

2.3.3.2 Delphi method

The Delphi method is a systematic technique used to gain consensus amongst a group of 'panellists' (e.g., participants who have expertise, knowledge and/or experience relevant to the topic of inquiry) through a series of iterative survey rounds (Hasson et al., 2000). Delphi studies are generally conducted online over two or three rounds, with larger numbers of participants, and greater scope to address (and reach agreement) on multiple priorities or distinct questions than NGT (Caudle et al., 2025; McMillan et al., 2016; Niederberger & Spranger, 2020). Whilst NGT and Delphi methods share similarities, Delphi approaches are grounded in the principles of anonymity, controlled feedback between rounds, participant reflection and revision, and statistical aggregation of responses, which reduces the risk of dominance bias and encourages honest responses (Caudle et al., 2025; Nasa et al., 2021). This is particularly important for addressing complex and sensitive topics and helps to facilitate genuine consensus because participants are more likely to revise their responses based on the merit of considered viewpoints rather than interpersonal dynamics (Jorm, 2015; King et al., 2023). Delphi methods also provide more flexibility in terms of the starting criteria (e.g., assessing the content validity of predefined measurement items) and the use of online surveys are more efficient and practical for panellists to engage with (Caudle et al., 2025).

Given the above, the Delphi method was deemed appropriate for addressing *Objective 4* of this thesis research which sought to assess the content validity, acceptability, and potential utility of suicidality items that had been adapted and/or developed for use with perinatal women, via expert consensus (Article 5, Chapter 7). This builds upon the findings of the systematic review and qualitative research (Chapters 3 to 6), to generate practical and action-driven outcomes regarding the most acceptable, appropriate, and clinically relevant

approaches for identifying and discussing suicidality with pregnant and postnatal women in the context of maternity care.

2.4 Patient and public involvement (PPI) in research proposal

Patient and public involvement (PPI) is an important component in health research. PPI centralises peoples lived experiences for developing and conducting research that supports the needs of those it seeks to benefit (Health Research Authority [HRA], 2025; National Institute for Health and Care Research [NIHR], 2024). PPI is different to research participation as contributors play an active role in helping to shape the research questions, materials, methods, interpretation of findings and dissemination of outputs to ensure relevance and impact (HRA, 2025; NIHR, 2024). Best practice PPI in PMH research includes representation from pregnant and postnatal women from diverse groups throughout the research process and recognises the value of their time and input through fair reimbursement and practical support (including childcare and travel costs) (NIHR, Applied Research Collaboration South London, 2025).

In the context of this research, the scope for including PPI throughout the process was limited by practical and resource constraints (e.g., lack of funding and time). Ideally, the research would have embedded an inclusive and comprehensive PPI approach at multiple stages as outlined above. However, given that this was not feasible, PPI was implemented during the preliminary phase of the research to assist in its initial development. Representatives from the Research Advisory Group (RAG) at the Centre for Maternal and Child Health Research (City St George's, University of London) and Grassroots Suicide Prevention provided feedback on the original PhD research proposal. The RAG are a group of women who have had a baby in the last few years and meet regularly to advise and offer feedback on research projects in the Centre. Grassroots is an award-winning charity and UK

leader in suicide prevention. The PhD research proposal was reviewed by members of RAG and the CEO of Grassroots, at the time. The feedback was collectively positive and useful. As one women wrote: "*The most striking thing from reading the proposal was the levels of suicide perinatally and that SI [suicidal ideation] could occur independently of depression and anxiety… there is a need for a screening process for SI in pregnancy and postpartum and this research project looks to achieve that"*. Detailed feedback from two members of RAG is provided in Appendix A.

2.5 Participants

Data were collected from a total of 66 unique participants across three empirical research studies. Details of the research participants are briefly described below and in the relevant methods sections of Chapters 4 to 7 of this thesis.

2.5.1 Pregnant and postnatal women: qualitative interviews

Twenty-one pregnant and/or postnatal women (up to two years post-birth) were recruited through social media (n = 16) or word of mouth (n = 5). Perinatal women were eligible to participate if they were aged 18 or over, lived in the UK and could speak and understand English. Women were not eligible to participate if they were experiencing current (self-reported) suicidality or self-harming behaviours. However, the research sought to recruit women who had (n = 17) and who had not (n = 4) experienced PMH difficulties and/or suicidality during pregnancy and/or after birth in the past. This was important for exploring the acceptability and content validity of suicidality screening measures from different perspectives, and for determining which items may have utility for use with all perinatal women in maternity and research settings. Likewise, it was also important to understand the barriers, facilitators and implications of discussing and/or disclosing suicidality to maternity

HCPs with perinatal women who had experienced this type of conversation and those who had not.

2.5.2 Healthcare practitioners: qualitative interviews

Fifteen HCPs were recruited through social media (*n* =11) or word of mouth (*n* = 4). HCPs were eligible to participate if they were aged 18 or over, lived in the UK and could speak and understand English. HCPs were not eligible to participate if they were experiencing current (self-reported) suicidality or self-harming behaviours. The sample included practitioners who were currently, or who had previously worked with pregnant or postnatal women, such as midwives, health visitors, GPs etc. Given that early identification of perinatal suicidality often relies on HCPs who have routine contact with pregnant and postnatal women, it was important to explore attitudes towards different screening measures and conversations about suicide from a range of professional roles, and not only those working in specialist mental health services. Likewise, it was also important to capture the views of those who had and who had not received specific PMH and suicidality training, experience of initiating these types of discussions, and/or of conducting biopsychosocial risk assessments/making referrals to specialist services.

2.5.3 Delphi panellists: online questionnaires

Thirty participants were recruited using purposive sampling (*n* =24) or they contacted the lead researcher in response to study advertisements on social media (*n* = 6). Participants were invited to take part based upon their expertise, experience, and/or professional involvement in areas such as PMH, psychology, psychiatry, suicide research, suicide prevention, and/or the development of mental health measurement tools. It was important to include opinions and perspectives from different disciplines and roles within the broader field of perinatal

suicidality for representativeness. Additional eligibility criteria were being aged 18 or over, and the ability to read/understand written English. Participation was open to those residing both within and outside of the UK.

2.6 Ethics

Research ethics are the principles and practices that ensure research is conducted with scientific integrity, transparency, respect and accountability, while safeguarding the rights and wellbeing of all participants. Given the sensitive nature of suicide and suicidality, and the heightened emotions that some women may experience during pregnancy and after birth, it is important to recognise the ethical implications associated with this area of inquiry.

2.6.1 Ethical considerations

Conducting research into perinatal suicide raises unique challenges in terms of participant safety and welfare, and consideration of ethical issues. Institutional Ethical Review Boards (IERBs) have significant concerns about this type of research due to greater potential for adverse events and because suicidal individuals are a vulnerable group (Hom et al., 2017). Historically, pregnant women were also considered a vulnerable group for research purposes, although there is now wide recognition of the importance of including pregnant and postnatal women in research and a shift towards understanding them as a complex population (WHO, 2025b). Likewise, misperceptions, a lack of understanding about suicide and suicide prevention, and underlying stigma may make the research process challenging (Hom et al., 2017). This necessitates clear and appropriate risk management and safeguarding protocol to protect against any potential for harm, including principles and guidelines to preserve and support researchers' mental health wellbeing when engaging in emotionally demanding research (Quinton et al., 2025; Silverio et al., 2022). However, whilst it is recognised that

discussions around suicide and suicidality may cause uncomfortable and/or unanticipated emotion and distress for some individuals, it is also important to dispel the myth that talking about suicide will have iatrogenic effects (Blades et al., 2018; Dazzi et al., 2014). On the contrary, research shows that talking about suicide can reduce suicidality and lead to improvements in health-seeking behaviours, which is a key component of suicide prevention strategies (Blades et al., 2018; Dazzi et al., 2014; GOV UK, 2023). Similarly, research that addresses sensitive topics can often be a positive and rewarding experience with cathartic effects, especially when the research aims are meaningful and directly relevant to the study population (Alexander et al., 2018; Andrighetti et al., 2017; Biddle et al., 2013).

2.6.2 Ethical considerations specific to this thesis research

Following from the above, specific ethical considerations and protocols were implemented to minimise participant distress and to ensure participant and researcher safety during this thesis research (see Appendix B for comprehensive ethical protocols and procedures).

All potential participants were sent an information pack prior to recruitment so they could make an informed decision about taking part. This pack included a sample consent form, detailed participant information sheet and contact list of relevant mental health and suicide helplines and services. All participants who decided to take part provided electronic informed consent via a secure online platform (Qualtrics, 2005) prior to data collection. For participants who took part in Studies 2 and 3, they also verbally reconfirmed their continued consent at the start of the interview. Participants were frequently reminded that their involvement in the research was entirely voluntary, and they could withdraw at any time (up until the point of data analysis) without providing a reason.

For Studies 2 and 3, measures were implemented to minimise participant distress. I have experience and applied training in suicide awareness and intervention (previous

professional work at a suicide prevention charity), so I monitored signs of psychological distress carefully throughout each interview. A protocol was developed which followed a stepped approach if a participant became upset or distressed: (i) offer to pause or stop the interview; (ii) sensitively listen to the participant, and suggest they seek additional support from family members or a professional; and (iii) offer to talk through the mental health resource list with the participant (which was sent in their information pack).

A protocol was also developed to ensure participant safety if anyone disclosed current suicidality or risk of harm to themselves or others. In this event, I would have sensitively ended the interview and adhered to the following steps: (i) with the participants permission, conduct a brief suicide assessment; (ii) if a participant endorsed any of these questions, I would contact Professor Susan Ayers for further guidance; (iii) ask the participant if we can contact their GP or another suitable professional; and (iv) where appropriate and necessary, call 999 for assistance.

Likewise, despite having experience in suicide prevention, it was also important to minimise any potential psychological harm to me as the researcher, particularly during the data collection phase of this thesis research. As such, I had regular welfare meetings with my supervisor Dr Rose Meades so I could discuss how the research was affecting me, if required.

No adverse effects, participant distress, or safety concerns were observed or reported during this thesis research. Instead, many participants commented on how pleased they were to have taken part, both in terms of their own experience, and the potential benefits of the research for future pregnant and postnatal women.

2.6.3 COVID-19 ethical considerations specific to this thesis research

IERB applications for the two qualitative interview studies were submitted in December 2021, shortly after the COVID-19 pandemic. Despite the easing of COVID-19 related safety

measures at this time, all research interviews were conducted online (using Teams or Zoom) or via the telephone. Reasons for this decision included: (i) continued high prevalence of community COVID-19 transmission; (ii) pregnant women and women with young babies are more vulnerable to infection; (iii) the COVID-19 pandemic led to a widespread adoption of virtual communication platforms, which has benefits for research purposes (e.g., less time-consuming and less impactful to daily routine, and more cost effective for participants - especially new mothers and busy HCPs – and researchers); and (iv) greater reach for participation (e.g., people living anywhere in the UK could take part). Likewise, evidence also suggests that online interviews may help to connect and enable people who feel uncomfortable with in-person face-to-face interviews to engage in research, and they can be particularly beneficial when discussing sensitive topics (Jenner & Myers, 2019; Oliffe et al., 2021; Wakelin et al., 2024).

2.6.4 Ethical approvals

For the three empirical thesis research studies, ethical approval was granted by the School of Health and Psychological Sciences Research and Ethics Committee (SHPS REC) at City, University of London prior to any recruitment of participants or data collection. Approval details are as follows: (i) Study 2 (reference number: ETH2122-0757, approval date: 21st April 2022); Study 3 (reference number: ETH2122-0828, approval date: 17th February 2022); and Study 4 (reference number: ETH2223-0074, approval date: 1st November 2022). Formal documentation for the ethical approvals is provided in Appendix C.

2.7 Researcher reflexivity and positionality

Reflexivity is a mode of practice that positions the researcher as having an active and self-aware role in the research process (Joy et al., 2023; Braund et al., 2024). It involves critically

examining one's own assumptions, values and positionality, as well as considering how these may influence epistemological, ontological and methodological choices, interpersonal interactions, and the interpretation of data (Lazard & McAvoy, 2020). This also involves an acknowledgement of the influences that one might not be aware of (Joy et al., 2023). By adopting a reflexive orientation, transparency and rigour in the research process is enhanced, as is the quality of the knowledge produced (Joy et al., 2023).

Embarking upon a PhD at a relatively later age in life has meant that I brought a range of personal and professional experiences to this research that have shaped my assumptions and approach to it. My wider philosophical stance is that meaning is made through our experiences and interactions, and whilst we as humans share some objective realities, our understanding of these come through an individual and diverse lens. From a pragmatic perspective, I believe in the value of experience for shaping meaningful inquiry and for generating practical knowledge with real-world applicability.

As a mother (to a now 13-year-old daughter) and as a woman who experienced postnatal distress following her birth, I entered into this PhD with some understanding of the emotional and psychological complexities that can accompany the transition to motherhood. This enabled me to both critically examine my own experiences with intentionality, whilst recognising and centring the personal and social realities of others in relation to the topic of inquiry. Likewise, my prior studies (which include a BSc in Psychology and an MSc in Applied Social Psychology), professional work in a suicide prevention charity, and formal training in suicide awareness have informed my sensitivity to the nuances and challenges surrounding discussions of suicidality and supported the way in which I engaged with my PhD participants. Through previous research where I conducted interviews on sensitive topics e.g., posthumous altruism, I have also developed a careful and considered approach to building rapport and creating safe spaces for participants to share their experiences and

thoughts, whilst being cognisant not to impose my own views or create an uneven power dynamic.

I acknowledge that my own assumptions, experiences, and ethnic and cultural background as a middle-class white woman will have had some bearing upon the research process and interpretation of the data collected. As such, care was taken to regularly discuss each stage of the research with my supervisors, and to challenge any ambiguities. However, I view researcher subjectivity as a resource and not as a bias to be eliminated. Moreover, this positionality aligns with a reflexive and pragmatic approach that enhances the depth and relevance of my thesis research, and which is responsive to the needs of those it seeks to benefit.

3 Measures of suicidality in perinatal women: A systematic review (Article 1)

Dudeney, E., Coates, R., Ayers, S., & McCabe, R. (2023). Measures of suicidality in perinatal women: A systematic review. *Journal of Affective Disorders, 324*, 210-231. https://doi.org/10.1016/j.jad.2022.12.091

3.1 Abstract

Background: Suicide is a leading cause of death for perinatal women. Identifying women at risk of suicide is critical. Research on the validity and/or reliability of measures assessing suicidality in perinatal women is limited. This review sought to: (i) identify; and (ii) evaluate the psychometric properties of suicidality measures validated in perinatal populations.

Methods: Nine electronic databases were systematically searched from inception to January 2022. Additional articles were identified through citation tracking. Study quality was assessed using an adapted tool, and the psychometric properties of measures were reviewed and presented using a narrative synthesis.

Results: A total of 208 studies were included. Thirty-five studies reported psychometric data on ten suicidality measures. Fifteen studies reported both validity and reliability data, 12 reported more than one type of validity, seven validated more than one measure and four only reported reliability. Nearly all measures primarily screened for depression, with an item or subscale assessing suicidal ideation and/or behaviours. Three measures were specifically developed for perinatal women, but only two were validated in more than one study. The Postpartum Depression Screening Scale (PDSS), suicidal thoughts subscale, was validated most frequently.

Limitations: Methodological differences and variability between the measures (e.g., suicidality construct assessed, number of items and administration) precluded direct comparisons.

Conclusion: Further validation of suicidality measures is needed in perinatal women. Screening for perinatal suicidality often occurs in the context of depression. The development of a standalone measure specifically assessing suicidality in perinatal women may be warranted, particularly for use in maternity care settings.

Keywords: Suicide; Perinatal; Pregnancy; Postpartum; Screening; Psychometrics

3.2 Introduction

Suicide is a leading cause of death in perinatal women (during pregnancy and up to one-year after birth). In high-income countries (HICs), perinatal suicide accounts for between 5% to 44% of all maternal deaths (Australian Institute of Health and Welfare [AIHW], 2020; Grigoriadis et al., 2017; Howard & Khalifeh, 2020; Perinatal and Maternal Mortality Review Committee [PMMRC], 2021; Trost et al., 2021; Walker, 2022), and in the UK, almost one in five women who die between six-weeks and one-year postnatal, die by suicide (Knight et al., 2021). In low and-middle income countries (LMICs), research suggests that suicide is a moderate contributor to perinatal deaths, although rates may be underestimated due to differing definitions and classifications of maternal mortality (Fuhr et al., 2014; Palfreyman et al., 2021). More violent methods are commonly adopted in perinatal suicide than in women at other times of life, potentially reflecting a higher level of intent (Khalifeh et al., 2016; Shigemi et al., 2021), and there are tragic cases where maternal suicide is accompanied by infanticide (Patrick, 2013; Spinelli & Bramante, 2022).

Pregnancy and the postpartum period are particularly sensitive periods in a women's life. During this time existing mental health problems may be triggered or exacerbated, or new concerns may arise. However, it is estimated that half of women with perinatal mental health issues and/or at risk of suicide are not identified despite regular routine contact with healthcare services, and still fewer receive treatment (Bauer et al., 2014; Grigoriadis et al., 2017; National Childbirth Trust [NCT], 2017). Identifying and treating perinatal women at risk of suicide is therefore vital for the health and wellbeing of new mothers, their infants, and families. This is now recognised in UK strategy and public health. The Cross-Government Suicide Prevention Plan (GOV UK, 2019), NHS England Five-Year Forward View and NHS Long Term Plan (NHS England, 2016a, 2016b, 2019) aim to prioritise and

reduce suicide in high-risk groups and promote mental health in key areas where people may be more vulnerable, one of which is perinatal mental health.

"Suicidality" is an umbrella term which is often used when referring simultaneously to suicidal ideation (the experience of thoughts and/or rumination about dying by suicide), suicide plans (acts conducted to prepare for a suicide attempt), suicidal behaviours and/or suicide attempts (acts of self-directed injury, conducted with an intent to die by suicide) (Crosby et al., 2011). However, it is important to recognise that these are distinct processes, with differing levels of risk and differing implications in terms of assessment and care provisions. In perinatal women, suicidality is associated with serious and enduring adverse effects on maternal health and obstetric outcomes (Shigemi et al., 2021; Zhong et al., 2018), neonatal health (Gelaye et al., 2019), child development (Martini et al., 2019; Mebrahtu et al., 2020) and mother-infant bonding (Faisal-Cury et al., 2021; Paris et al., 2009). Given the seriousness of these outcomes, it is crucial that research continues to examine the correlates and risk factors for perinatal suicidality so that appropriate and targeted methods for identifying suicidality are accessible and validated for this population (Gelaye et al., 2016; Kitsantas et al., 2021; Reid et al., 2022a).

Evidence suggests that suicidal ideation, which involves specific and persistent thoughts about ending ones' life, is a risk factor for future attempts (Lindahl et al., 2005; Orsolini et al., 2016) and is experienced more frequently by perinatal women than those in the general population (Gelaye et al., 2016). However, perinatal suicidal ideation is not routinely assessed in the UK, nor is it universally screened for in other countries, despite some agreement that it should be implemented into maternity care (Arachchi et al., 2019; Maré et al., 2021; Tachibana et al., 2020). Perinatal suicidal ideation (and suicidality) may be identified through a clinical or diagnostic assessment (e.g., the Structured Clinical Interview for DSM-IV disorders [SCID], First & Gibbon, 2004), although these are typically conducted

after a woman either discloses a history of mental health issues and/or suicidality, or if she is already in contact with psychiatric services and receiving specialist care. Likewise, measures specifically designed for assessing suicidal ideation and/or risk are available, such as the clinician-rated Columbia-Suicide Severity Rating Scale (C-SSRS, Posner et al., 2011) or the self-reported Suicidal Behaviours Questionnaire-Revised (SBQ-R, Osman et al., 2001), but there is limited evidence of their use in perinatal populations.

To date, no assessment measure has been specifically designed to screen for suicidality in perinatal populations. Usually, assessments of perinatal suicidal ideation and/or risk are conducted in the context of screening for depression (and/or other mental health disorders) because depression and suicidality are frequently comorbid (Howard & Khalifeh, 2020; Orsolini et al., 2016) and depression has been identified as a risk factor for subsequent suicide (Crump et al., 2014). Several depression measures which include items about suicidality/self-harm have been specifically developed for use with perinatal women, including the Edinburgh Postnatal Depression Scale (EPDS, Cox et al., 1987) and the Postpartum Depression Screening Scale (PDSS, Beck & Gable, 2000), but it is not uncommon for more general measures of depression, such as the Patient Health Questionnaire-9 (PHQ-9, Kroenke et al., 2001) to be administered.

Whilst screening for perinatal depression may act as a proxy for identifying suicidal ideation, this could lead to potential under detection in reported rates (Gelaye et al., 2016). Research indicates that perinatal depression and suicidality are overlapping but separate phenomena. Suicidal ideation can be a symptom of depression, and/or the two may co-occur, but suicidality can persist independently from depression (Garman et al., 2019a; Iliadis et al., 2018). Hence, embedding a suicidal ideation question(s) into the scoring system for a perinatal depression screen, may mean that suicidality in women who do not meet the clinical threshold for depression are missed (Onah et al., 2017; Zhang et al, 2022). Likewise, if the

endorsement of suicidality on a depression measure is used as a positive indicator for depression – irrespective of whether the recommended scale cut-off has been met or not – then some women may be misclassified (Kim et al., 2015).

There are also clear limitations of using a single question to capture the highly complex nature of suicidality and/or risk in perinatal women, which may lead to important dimensions of suicidality being overlooked (Lindahl et al., 2005; Na et al., 2018). In addition, the wording of some suicidality items on commonly used depression measures use vague language, do not necessarily distinguish between passive or active intent, nor adequately differentiate suicidal ideation from thoughts of self-harm which are often used interchangeably in both academic research and clinical practice (Mauri et al., 2012, Yawn et al., 2009, Zhong et al., 2015). For example, numerous studies have used item-10 from the EPDS to assess the prevalence of suicidal ideation in perinatal samples (e.g., Howard et al., 2011; Tabb et al., 2019). However, the question asks whether "the thought of harming myself has occurred to me", which may or may not reflect a desire to take one's own life (Lindahl et al., 2005; Palfreyman, 2021). Depending on the measurement item used and/or construct of interest, this discrepancy in wording could create false positive or false negative screening scores for suicidal and/or self-harm ideation, resulting in more cases being missed (Pope et al., 2013). There are also concerns about the language used in some suicidality measures (e.g., "commit suicide") as certain expressions are associated with wrongdoing and/or inappropriate acts which may reinforce stigma and prevent people from responding to questions honestly. Terms such as "die by suicide" or "end one's own life" may offer a more sensitive and appropriate alternative (Padmanathan et al., 2019).

In view of these issues, it is unsurprising that prevalence estimates for perinatal suicidality vary considerably. Recent data from two systematic reviews and meta-analyses indicated that the global prevalence of antenatal suicidal ideation was 10% (Xiao et al.,

2022), and 7% to 12% postnatally (Amiri & Behnezhad., 2021; Xiao et al., 2022) across various sample types and different suicidality assessment measures. Factors such as, sample type and/or characteristics, the construct assessed, the measure(s) used (including differing administration modes and cut-off thresholds) and the timing of assessment also affect reported rates (Chan et al., 2016; Coker et al., 2017; Martini et al., 2019) and underscore some of the challenges in making direct comparisons and/or generalising prevalence across and within samples.

Evidence regarding whether suicidality is more prevalent during pregnancy or after birth also remains inconsistent (Kitsantas et al., 2021; Kubota et al., 2020; Shi et al., 2018). Some research suggests that childbirth has a protective effect against suicidality in the postpartum (Appleby, 1991) and higher parity has also been associated with a decreasing trend in suicide mortality (Koski-Rahikkala et al., 2006). However, unplanned and/or unwanted pregnancies may increase the risk of antenatal suicidality (Frautschi et al., 1994; Ishida et al., 2010) as may anxiety and insecure attachment styles (Zhang et al., 2022). These variations in onset and prevalence emphasise the need to identify and/or monitor suicidality throughout pregnancy and after birth, although there are important implications regarding the most effective and feasible types of mental health assessment to conduct at different perinatal stages, particularly in terms of access and the pathways to appropriate care (National Collaborating Centre for Mental Health, 2018).

Given the adverse and serious consequences of perinatal suicidality, it is imperative that appropriate approaches to assessing suicidality are identified and validated in perinatal populations. One approach may be to use questionnaire measures. Since the current approach for assessing suicidality in perinatal women mainly relies on the use of items within depression measures, these measures need to be psychometrically robust and appropriate for use in either academic research and/or clinical practice. Previous research on the validity

and/or reliability of measures assessing perinatal suicidality is limited, and the authors know of no systematic reviews in this area. Therefore, this review aims to systematically identify and evaluate measures of suicidality that have been validated in perinatal populations by answering the following questions:

Q1. What measures are used to assess suicidality in perinatal women?
Q2. What are the psychometric properties of suicidality measures that have been validated in perinatal populations?

3.3 Methods

3.3.1 Research integrity and transparency

This review was conducted in accordance with the PRISMA guidelines (Moher et al., 2009; Page et al., 2021) and was registered on PROSPERO (Dudeney et al., 2020) prior to data extraction.

3.3.2 Eligibility criteria

Inclusion criteria were: (i) published studies with perinatal women that reported on a quantifiable measure of suicidality as either a main or secondary focus. Mixed method studies were included if they also reported on the above; (ii) assessment of suicidality was via self-report or observer/clinician rated questionnaire, and/or diagnostic interview; (iii) the sample were perinatal women, including pregnancy loss populations (i.e., stillbirth, miscarriage, or termination of pregnancy); and (iv) the article was published in English. Studies were excluded if they: (i) reported on a measure of suicidality beyond the first postnatal year (e.g., a longitudinal study) and there was insufficient information to determine the time point of assessment(s) to extract the data from < 12-months; (ii) did not

differentiate historical and/or lifetime suicidality from suicidality within the perinatal period; and (iii) the article was an editorial, case report or conference proceeding.

Measures that had been used in three or more studies were included in Q1 (measures used to assess perinatal suicidality). The criteria of ≥ 3 did not apply for measures in Q2. To answer Q2 (psychometric properties), studies were included if they reported on the validity and/or reliability of the measure used to assess suicidality in a perinatal sample. Studies that reported construct validity for the EPDS were not included in this review because this has already been extensively examined (see Kozinszky et al., 2017, for examples). Studies that reported construct validity for any other measure but removed the suicide item from the final factor structure, were also excluded.

3.3.3 Data sources and search strategy

The following databases were systemically searched from their inception to March 2020, and then updated to January 2022: SCOPUS, MEDLINE, PsychINFO, PsychARTICLES, PubMed, Cochrane Library, Maternity and Infant Care, EMBASE and CINAHL. This was supplemented by forward and backward citation tracking.

The search strategy followed a modified PICO framework (Joanna Briggs Institute, 2014) (i.e., Population or Problem [perinatal women], Intervention [measure of suicidality], Comparison, Control or Comparator [not applicable], and Outcome [type of suicidality]). The keywords were combined using Boolean operators, and searches included both Subject Heading (e.g., MeSH) and Free-Text terms. An example search strategy is as follows: pregnan* OR *natal OR *partum OR matern* OR mother* AND measure* OR assess* OR diagnos* OR screen* OR questionnaire OR scale OR instrument OR method OR tool AND suicid* OR self-harm* OR self-injur* OR parasuicid* OR “ending own life” OR “taking own life” OR “thoughts of death” (see Appendix D) for the search strategies per database).

3.3.4 Article selection and data extraction

Retrieved articles were imported into ProQuest RefWorks and duplicate papers were removed. A three-stage screening process was then performed: (i) screening by 'title', with irrelevant items removed; (ii) screening by 'abstract', with ineligible and/or irrelevant items removed; and (iii) full-text screening, using the inclusion/exclusion criteria outlined in section 3.3.2. The selection process was carried out by the first author, and an independent reviewer screened 20% of all retrieved articles, adhering to the same procedure. There were no discrepancies or disagreements.

Data from eligible studies were extracted by the first author into a standardised form, developed in Excel and included (where available): authors, publication year, country of study, study design, sample size, sample type, name of measure and/or suicidality item(s) used, suicidality constructs measured (e.g., suicidal ideation, suicide behaviour) or suicide risk, who administered the measure (e.g., self-report, clinician), method of administration (e.g., questionnaire, face-to-face interview), when it was administered (e.g., pregnancy, postnatal) and at which time points (e.g., 28-weeks pregnant, six-weeks postnatal), content of the measure (e.g., score range, number of items and/or cut off points), prevalence of suicidality identified, and any psychometric information reported.

3.3.5 Data quality assessment and synthesis

Studies included in Q1 were not assessed for quality, as the purpose was to present measures of suicidality that have been used in perinatal research. The quality of studies in Q2 were assessed using an adapted appraisal tool, based upon relevant items from the Quality Assessment of Diagnostic Accuracy Studies (QUADAS, Whiting et al., 2003) and a checklist created by Mirza and Jenkins (2004). The psychometric properties (e.g., reported validity

and/or reliability) and useability of suicidality measures included within these studies were assessed using a checklist adapted from Batterham et al. (2015).

Study quality was evaluated against the following criteria: (i) explicit study aims; (ii) adequate sample size; (iii) clear inclusion/exclusion information; (iv) sample characteristics reported in sufficient detail; (v) sample representative of the population receiving the test in practice; (vi) use of an appropriate reference standard; (vii) reliability reported; (viii) validity reported; (ix) dropouts and withdrawals specified; (x) data adequately described; and, (xi) discussion of generalisability. These domains of interest were measured as being either present (+), absent (-) or unclear (?) for each paper.

The psychometric evidence of suicidality measures identified within these studies were combined in a narrative synthesis. We considered potential usefulness and suitability for identifying suicidality in perinatal populations, and were guided by the following criteria: (i) explicitly measures a construct of suicidality, using at least one item; (ii) useability of measure (e.g., number of items, time taken to complete); (iii) yields quantitative data; (iv) has been scientifically scrutinised in perinatal populations (e.g., published in at least one peer-reviewed journal); (v) has demonstrated sound psychometric properties in perinatal populations, as detailed below; and (vi) freely available for use.

Study quality and psychometric evidence assessments were performed by the first author. The second author also assessed over 50% (19/35) of the studies, with a high level of agreement reached. Any minor discrepancies in scoring were resolved by discussion.

3.3.6 Psychometric evidence - validity and reliability

Types of validity and reliability data extracted for this review, are detailed in Table 3.1.

Table 3.1 Psychometric properties of validity and reliability

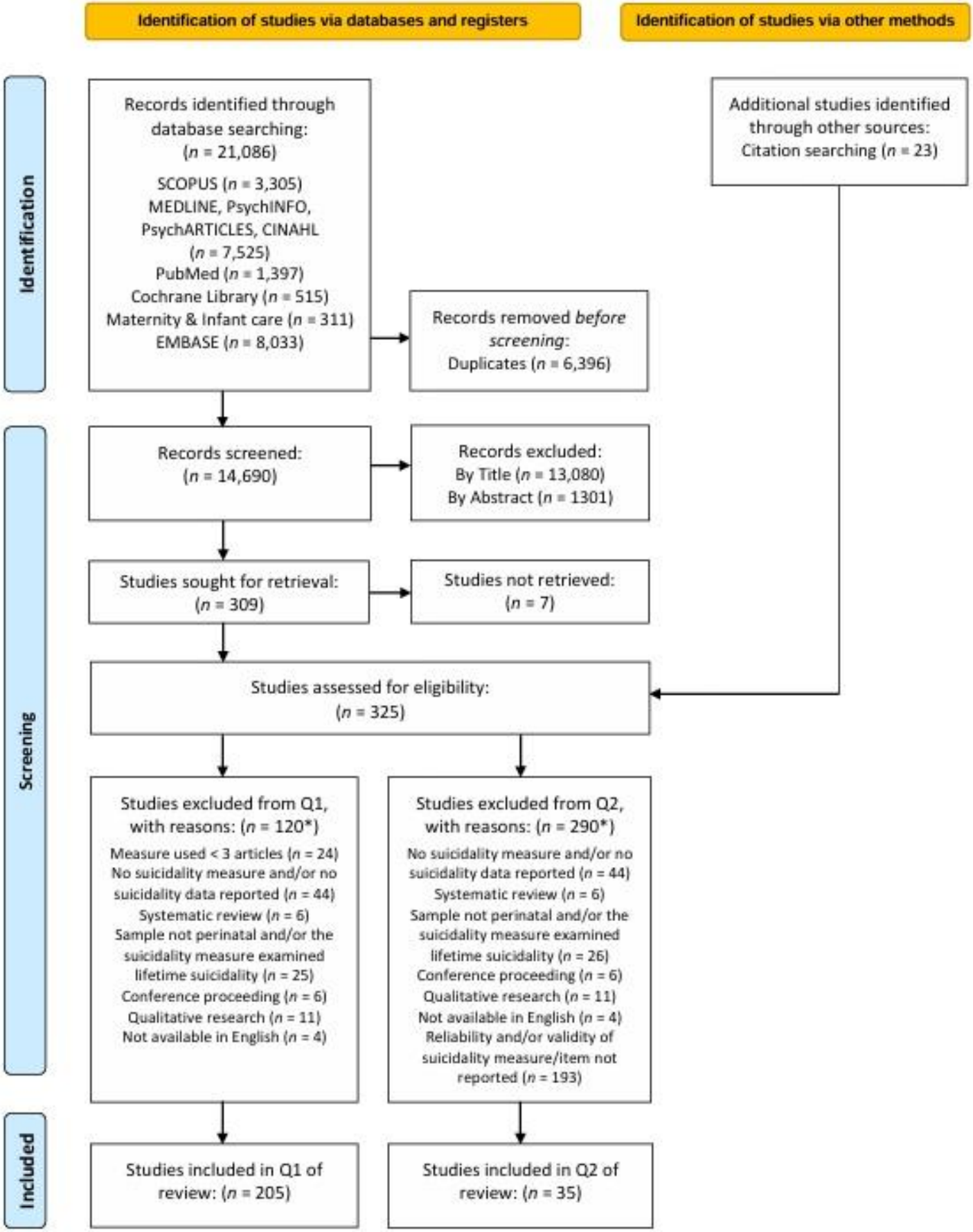
Psychometric property	Definition
Criterion validity	*Criterion validity* is determined by comparing the scores of a measure with those from a validated 'gold-standard' (e.g., a diagnostic clinical interview) (Greenhalgh, 2006) and is often reported in terms of sensitivity (%) (correctly identifying women with suicidality) and specificity (%) (correctly excluding women without suicidality) data.
Concurrent validity	*Concurrent validity* examines the extent that a measure correlates with another measure of the same phenomena, assessed at the same time.
Construct validity	*Construct validity* refers to the extent that a measure - or items therein - capture an underlying theoretical construct(s). It is usually assessed using factorial analysis or correlation methods (Strauss & Smith, 2009).
Discriminant validity	*Discriminant validity* refers to the extent that a measure can differentiate 'cases' from 'non-cases' (e.g., perinatal women with and without suicidality).
Predictive validity	*Predictive validity* is the extent that a psychological measure can predict a future outcome in relation to another variable or construct of interest.
Content validity	*Content validity* refers to the extent that items on newly developed measures capture targeted psychological dimensions. Often, both the conceptual and operational definitions of dimensions are assessed.
Cross-cultural validity	*Cross-cultural validity* refers to the extent that a measure developed in one culture, country and/or language can be meaningfully translated and applicable for use in another culture.
Internal consistency	*Internal consistency* is a measure of reliability and represents the level of homogeneity among item scores that purport to measure the same construct (often reported using Cronbach's alpha, α) (Kline, 2000).
Test-retest reliability	*Test-retest reliability* refers to the extent (correlation) that a measure produces consistent scores over time.
Item-total correlation	*Item-total correlation* is a measure of reliability. It refers to the extent of correlation between an individual item score (from a multi-item assessment measure) and the overall assessment score.

3.4 Results

3.4.1 Study selection

Following the removal of duplicates, a total of 14,690 unique articles were retrieved from the database searches, with 14,381 excluded after title and abstract screening. A further 23 articles were identified through forward and backward citation tracking, resulting in 325 full texts assessed for eligibility (seven articles could not be found). Two-hundred and five articles were included in Q1 (120 excluded), and 35 articles were included in Q2 (290 excluded). Thirty-two articles were included in both Q1 and Q2. A total of 208 unique articles were included in this review. The PRISMA flowchart is presented in Figure 3.1.

Figure 3.1 PRISMA flowchart



*Some studies were excluded for multiple reasons, but only one has been specified here.

3.4.2 Review question one – suicidality measures used with perinatal women: study characteristics

An overview of study characteristics is available in Appendix E. Of the 205 articles included, sample sizes ranged between *n* = 18 (Szpunar et al., 2021) to *n* = 22,118 (Kim et al., 2015) with 79 articles reporting on at least one measure of suicidality antenatally, 81 postnatally, 43 perinatally (e.g., in both antenatal and postnatal periods) and two in pregnancy loss populations. Twenty-two articles reported on more than one measure of suicidality. Publication dates ranged from 1992 to 2022, with 81% published between 2012 to 2022. Articles came from 50 countries, with 52 studies identified from the USA, 23 from South Africa and 21 from Brazil. Samples included women recruited through primary care, clinical settings, in the community, population-based and purposive sampling. The most common settings were women recruited through maternity care services (e.g., during their antenatal or postnatal checks). Over 50% of studies were cross-sectional, with the primary outcome being suicidality and/or depression prevalence rates.

3.4.3 Review question one – suicidality measures used with perinatal women: identified measures

Eleven measures of suicidality were identified across the 205 papers included for Q1. One-hundred and seven studies reported on the EPDS, item-10; 31 reported on the PHQ-9, item-9; 28 reported on the MINI-International Neuropsychiatric Interview, suicide module (MINI: Sheehan et al., 1998) and/or the MINI-International Neuropsychiatric Interview for Children and Adolescents, suicide module (MINI-KID: Sheehan et al., 2010); and 22 reported on the PDSS, suicidal thoughts scale (SUI). The remaining seven measures were reported eight times or fewer. Table 3.2 provides an overview of these measures, including the *n* range and reported prevalence rates by antenatal, postnatal, and perinatal samples. A descriptive

summary of each suicidality measure (e.g., item development and content, recommended cut-offs etc.) is presented in Table 3.3.

Table 3.2 Summary of measures identified in Q1 of review

Measure, item or subscale	Total No. of studies	Antenatal studies (No. studies & *n* range – min/max)	Postnatal studies (No. studies & *n* range – min/max)	Perinatal studies (No. studies & *n* range – min/max)	Pregnancy loss studies (No. studies & *n* range – min/max)	Antenatal suicidality prevalence (% Low/high, reference)	Postnatal suicidality prevalence (% Low/high, reference)	Perinatal suicidality prevalence (% Low/high, reference)	Suicidality construct measured (Incidence period)
BDI & BDI-II, item-9/BDI-SF, item-7* Self-reported, 4-pt response scale	**8**	**4** *n* = 102 (Manber et al., 2008) *n* = 830 (Corbani et al., 2017)	**4** *n* = 317 (Pinheiro et al., 2008) *n* = 818 (Coker et al., 2017)[a]	**0**		1.3%, S (Corbani et al., 2017) 45.6%, SI (Chan et al., 2016)	8.3%, S (Pinheiro et al., 2008) 16.1%, SI/SH (Coker et al., 2017)[a]		SH/SI/SP/S (Past 7-days/past 14-days)
BSSI Self-reported, 3-pt response scale	**4**	**3** *n* = 110 (Freitas et al., 2008) *n* = 835 (Abdelghani et al., 2020)	**0**	**1** *n* = 45 (Doherty et al., 2019)		16.3%, SI (Freitas et al., 2008) 21.6%, SI (Abdelghani et al., 2020)		5.6%, SI (Doherty et al., 2019)	SI/SR/SA (Past 7-days)
CIDI & CIDI-V, Diagnostic Interview, suicide module Clinician assessed, presence or absence of symptoms	**7**	**3** *n* = 415 (Anbesaw et al., 2021) *n* = 2,062 (Levey et al., 2019)	**0**	**4** *n* = 306 (Martini et al., 2019) *n* = 414 (Gelaw et al., 2020; Zewdu et al., 2021)[b]		2.7%, SA; 11.8%, SI (Belete et al., 2021) 22.6%, SIBs (Levey et al., 2019)		Antenatal, 0.3%, SIBs Postnatal, 1.1%, SIBs (Martini et al., 2019) 8.2%, SI (Gelaw et al., 2020; Zewdu et al., 2021)[b]	SI/SP/SA/ SIBs (Past month)
C-SSRS/eC-SSRS* Clinician assessed (self-reported for eC-SSRS)	**5**	**2** *n* = 46 (Na et al., 2018) *n* = 1,000 (Palfreyman, 2021)	**1** *n* = 165 (Achtyes et al., 2020)	**2** *n* = 18 (Szpunar et al., 2021)[c] *n* = 28 (Szpunar et al., 2020)[c]		4.3%, SIBs (Na et al., 2018) 7.4%, SIBs (Palfreyman, 2021)	5.4%, SIBs 26%, SI (Achtyes et al., 2020)	Antenatal, 7.1%, SI Postnatal, 0%, SI (Szpunar et al., 2020)[c] Antenatal, 11.1%, SI Postnatal, 7.7%, SI (Szpunar et al., 2021)[c]	SI/SIBs/SP/ SA (Current/ recent)
EPDS, item-10*	**107**	**32**	**45**	**29**	**1**			Antenatal, 2.3%	SH/SI

Self-reported, 4-pt response scale		*n* = 20 (Tourtelot et al., 2021) *n* = 9,192 (McCarthy et al., 2018)	*n* = 72 (Cardillo et al., 2016) *n* = 17,648 (Nelson et al., 2013)	*n* = 39 (Kalmbach et al., 2021) *n* = 22,118 (Kim et al., 2015)	*n* = 182 (Mutiso et al., 2018)	1% (Boghossian et al., 2020) 45% (Tourtelot et al., 2021)	0.6% (Wesselhoeft et al., 2020) 32.5% (Phukuta & Omole, 2020)	Postnatal, 1.6% (Gordon et al., 2019) Antenatal, 13.9% Postnatal, 6.3% (Enătescu et al., 2021)	(Past 7-days)
HRSD/HDRS/ HAM-D, item-3* Clinician assessed, presence or absence of symptoms	**7**	**3** *n* = 102 (Manber et al., 2008) *n* = 383 (Newport et al., 2007)[a]	**4** *n* = 72 (Cardillo et al., 2016) *n* = 842 (Coker et al., 2017)[a]	**0**		9.2%, SI (Iyenger et al., 2020) 16.7%, SI (Newport et al., 2007)[a]	6.1%, SI (Pope et al., 2013) 13%, SI (Lanczik et al., 1992)		SI/SIBs/SA (Past 7-days)
MINI/MINI Kid, suicide module Clinician assessed, presence or absence of symptoms and/or a stratification for suicide risk according to score range	**28**	**16** *n* = 114 (Chan et al., 2016) *n* = 974 (Trettim et al., 2020)	**8** *n* = 190 (Pinheiro et al., 2012a) *n* = 988 (Belete & Misgan, 2019)	**4** *n* = 384 (Garman et al., 2019a, 2019b)[d] n = 748 (Maré et al., 2021)		9.5%, SI; 1.3%, SA; 2.2%, SIBs (Trettim et al., 2020) 23.5%, SR (Castro e Couto et al., 2016)	5.7%, SR 1.6%, SA (Pinheiro et al., 2008) 9.5%, SR (Pinheiro et al., 2012a)	10.9%, SR (de Avila Quevedo et al., 2021) Antenatal, 19.9%, SIBs Postnatal, 22.6%, SIBs (Maré et al., 2021)	SI/SH/SIBs/ SP/SA/SR/S (Past month/ lifetime SA)
PDSS, SUI* Self-reported, 5-pt response scale	**22**	**1** *n* = 503 (Pereira et al., 2011)	**21** *n* = 32 (Paris et al., 2009) *n* = 587 (Saldaña et al., 2022)	**0**			32% (Quelopana et al., 2011) 58.7% (Le et al., 2010)	-	SI/SH (Past 2-weeks)
PHQ-9, item-9* Self-reported, 4-pt response scale	**31**	**20** *n* = 46 (Na et al., 2018) *n* = 19,515 (Yang et al., 2021)	**6** *n* = 215 (Tomlinson et al., 2020) *n* = 3,147 (Azale et al., 2018)	**4** *n* = 29 (Velloza et al., 2020) *n* = 1,362 (Sakowicz et al., 2021)	**1** *n* = 956 (Biggs et al., 2018)	2.6% (Legazpi et al., 2022; Melville et al., 2010) 21.7% (Na et al., 2018)	1.4% (Azale et al., 2018) 29% (Tomlinson et al., 2020)	Antenatal, 5% Postnatal, 3.9% (Knettel et al., 2020) Antenatal, 17% Postnatal, 14% (Sakowicz et al., 2021)	SI/SH (Past 2-weeks)
SCID, Diagnostic Interview, suicide item(s)*	**5**	**2** *n* = 109 (Rochat et al., 2011, 2013)[e]	**1** *n* = 208 (Kettunen et al., 2014)	**2** *n* = 568 (Fellmeth et al., 2021)		27.5%, SI; 22%, SP; 1.8% SA (Rochat et al., 2011, 2013)[e]	12.5%, SI (Kettunen et al., 2014)	5.3%, SI (Fellmeth et al., 2021)	SI/SH/SIBs/ SP/SA/SR (Recent)

Clinician assessed, presence or absence of symptoms							7.9%, SH (Gordon et al., 2019)	
<u>SRQ-20, item-17</u> Self-reported, presence or absence of symptoms (yes/no)	**6**	**3** *n* = 188 (McKelvie et al., 2021) *n* = 831 (Huang et al., 2012)	**2** *n* = 118 (Monaghan et al., 2021) *n* = 426 (Ho-Yen et al., 2006)	**1** *n* = 951 (Ishida et al., 2010)	6.3% (Huang et al., 2012) 26% (McKelvie et al., 2021)	3.3% (Ho-Yen et al., 2006)	1.8% (Monaghan et al., 2021) Antenatal, 4.7% Postnatal, 0.2% (Ishida et al., 2010)	SI (Past month)

Notes: (1) the same alphabet letter in superscript ([a,b,c]) represents the same sample or the sample was drawn from the same cohort; (2) twenty-two studies reported on more than one suicidality measure, hence the *total number of studies* (per measure) do not match the number of retrieved articles for Q1; (3) the prevalence rates presented are for the entire *antenatal, postnatal, perinatal* study sample and not just those with comorbid mental health disorders; (4) the *suicidality construct measured* refers to the constructs of interest that were examined across the studies, which may not necessarily be the same construct of interest (and/or *incidence period*) that the measure was originally developed to assess or identify; (5) later and/or adapted versions of a measure that uses the same item wording have been grouped together; (6) * measure has also been validated in perinatal populations.

Measures: BDI/BDI-SF = Beck Depression Inventory or Beck Depression Inventory Short-Form (Beck et al.,1961, 1996); BSSI = Beck Scale for Suicide Ideation (Beck et al., 1988); CIDI/CIDI-V = The World Mental Health (WMH) Survey Initiative Version of the World Health Organization (WHO) Composite International Diagnostic Interview (Kessler & Ustün, 2004); C-SSRS/eC-SSRS = Columbia-Suicide Severity Rating Scale or the electronic Columbia-Suicide Severity Rating Scale (Posner et al., 2011); EPDS = Edinburgh Postnatal Depression Scale (Cox et al., 1987); HRSD = The Hamilton Depression Rating Scale (Hamilton, 1960); MINI/MINI Kid = MINI-International Neuropsychiatric Interview (Sheehan et al., 1998) or MINI-International Neuropsychiatric Interview for Children and Adolescents (Sheehan et al., 2010); PDSS = Postpartum Depression Screening Scale (Beck & Gable, 2000); PHQ-9 = Patient Health Questionnaire-9 (Kroenke et al., 2001); SCID = Structured Clinical Interview for DSM-IV disorders (American Psychiatric Association, 1994; First & Gibbon, 2004); SRQ-20 = Self-Reporting Questionnare-20 (Harding et al., 1980).

Suicidality constructs: S = Suicidality (experiencing one or more suicide construct, including, suicidal ideation, suicidal behaviours, suicide attempts); SA = Suicide attempt(s) (previous attempts to take own life); SH = Self-harm ideation (persistent thoughts and/or rumination of self-harm); SI = Suicidal ideation (persistent thoughts and/or rumination of suicide); SIBs = Suicidal ideation and behaviours (persistent thoughts and/or rumination of suicide, including risky and/or harmful behaviours); SP = Suicide plans (making plans and/or preparations to take own life); SR = Suicide risk (may be at risk of taking own life, and may also be experiencing suicidal ideation and/or behaviours.

Table 3.3 Descriptive summary of all measures reported in the review

Measure	No. of suicidality items	Scale development	Self- or clinician-rated	Suicidality item(s) details (questions, response options, reporting period)	Suicidality construct measured	Item(s) cut-off
BDI* 21-item scale to screen for depression symptoms and severity	1	Based on the theory of negative cognitive distortions and clinical observations.	Self-reported	Item-9 BDI Assesses suicidal thoughts and plans over the past seven-days, on a four-point scale. Participants are asked to respond to one of the following statements: 0 = "I don't have any thoughts of killing myself", 1 = "I have thoughts of killing myself, but I would not carry them out", 2 = "I would like to kill myself", 3 = "I would kill myself if I had the chance".	SI, SP, S	≥ 1 / ≥ 2
BDI-SF* 13-item scale to screen for depression symptoms and severity		BDI-SF is an abbreviated version of the BDI (and BDI-II)	Self-reported	Item-7 BDI-SF Assesses suicidal thoughts and plans over the past two-weeks, on a four-point scale. Response statements are the same as the BDI (and BDI-II).	SI, SP, S	≥ 1 / ≥ 2
BSSI 19-item scale to assess the intensity, duration and specificity of suicidal thoughts, suicidal plans, and/or suicide attempts	19	Items partly clinically derived (observations/ interviews with suicidal people) and partly rationally derived. The scale was originally clinician rated but has also been validated for self-report.	Self-reported	Suicidality items Questions assess the intensity (e.g., "wish to die" – none, weak or moderate to strong), duration (e.g., "frequency of suicidal ideation" – brief/fleeting, longer periods or continuous/chronic) and specificity (e.g., "planning of suicide attempt" – not considered, considered but details not worked out or details are well formulated) of current suicidal ideation, suicide plans and suicide attempts. Response options range from 0 to 2, on a 3-point scale.	SI, SP, SA, SR	Not reported
CIDI Screening and/or diagnostic interview based on DSM-IV criteria CIDI-V A computer assisted version of CIDI	N/A	The WHO WMH-CIDI was developed to measure psychopathology using the DSM-IV[a] and ICD[d] criteria in both clinical and community settings.	Clinician-rated	Suicidality module Questions assess current suicidal ideation, suicide planning and suicide attempts. Examples include: "Have you seriously thought about committing suicide? Have you ever attempted suicide?" Response options are: YES/NO.	SI, SIBs, SP, SA, SR	YES
C-SSRS Suicide risk assessment usually	N/A	Academic researchers in the USA developed the	Clinician-rated	Suicide risk assessment – the number and choice of questions asked depends on the responses given to preceding questions. Questions are asked regarding suicidal thoughts, suicidal actions/preparations and suicide	SI, SIB'S SP, SA, SR	YES

conducted via interview to ascertain the level of risk and severity		scale in response to a need for a screening tool that could accurately assess the full spectrum of suicidal thoughts, behaviors and risk.		attempts (both current – past month – and lifetime) to ascertain a person's risk of suicide based on a scoring of severity. Example questions include: "Have you wished you were dead or wished that you could go to sleep and not wake up?" and "Have you done anything, started to do anything, or prepared to do anything to end your life?". Response options are YES/NO.		
eC-SSRS*	7	A shorter electronic version of the full C-SSRS.	Self-reported	Brief suicide risk assessment – Assesses current suicidal ideation, suicidal behaviors, suicide attempts and suicide risk using the following questions: (1) Have you wished that you were dead or wished you could go to sleep and not wake up? (2) Have you actually had any thoughts of killing yourself? (3) Have you been thinking about how you might kill yourself? (4) Have you had these thoughts and had some intention of acting on them? (5) Have you started to work out or worked out details of how to kill yourself? Do you intend to carry out this plan? (6) Have you made a suicide attempt – purposely tried to harm yourself with at least some intention to end your life? (7) Have you taken any steps to prepare to kill yourself or actually started to do some to end your life and stopped or were stopped before you actually did anything? Response options are YES/NO.	SI, SIB'S SP, SA, SR	YES
EPDS* 10-item scale to screen for postnatal depression symptoms and severity	1	Qualitative research with postnatal women and primary care workers. Some items also adapted from existing depression scales	Self-reported	Item-10 – "the thought of harming myself has occurred to me" Assesses self-harm thoughts over the past seven-days, on a four-point scale. Response options range from 0 to 3: 0 = "never", 1 = "hardly ever", 2 = "sometimes", 3 = "yes, quite often".	SH	≥ 1 / ≥ 2
HRSD* 17-item scale to screen for depression symptoms and severity	1	Originally developed to examine the severity and symptom types of people already diagnosed with an affective and/or depressive disorder	Clinician-rated	Item-3 Assesses suicidal and/or self-harm thoughts and attempts over the past seven-days, on a five-point scale. It is used for quantifying the results of a semi-structured interview. A clinician or practitioner asks the following questions: "have you had any thoughts that life is not worth living? That you'd be better off dead? Even thoughts of hurting or killing yourself? If yes, what have you thought about? Have you done anything to hurt yourself?". The clinician then rates the response(s) against the following criteria: 0 = "absent", 1 = "feels like life is not worth living", 2 = "wishes he/she were dead or any thoughts of possible death to self", 3 = "suicidal ideas or gestures", 4 = "attempts at suicide".	SI, SIBs, SA	≥ 1
IDAS* 64-item scale to screen for	6 (Suicidality subscale)	Successor to the MASQ[c], designed to complement	Self-reported	Suicidality subscale	SI, SH, SIBs, S	Not reported

depression and anxiety symptoms		existing measures and address limitations. Several items also reflect the DSM-IV[a] symptom criteria for major depressive episode		Assesses suicidal thoughts the over past two-weeks, on a five-point scale. Response options range from 1 to 5: 1 = "not at all", 2 = "a little bit", 3 = "moderately", 4 = "quite a bit", 5 = "extremely". Item-7 = "I had thoughts of suicide", item-9 = "I hurt myself purposely", item-14 = "I thought about my own death", item-15 = "I thought about hurting myself", item-41 = "I cut or burned myself on purpose", item-43 = "I thought that the world would be better off without me".		
KMDRS* 14-item scale to assess the different constructs of mixed depression	1	Developed to mirror the constructs of mixed depression in line with Koukopoulos specific criteria[e]	Clinician-rated	Item-12 Assesses suicidal impulsiveness over the past seven-days. A clinician or practitioner asks the following questions: "Have you had thoughts about killing or hurting yourself? Were these thoughts impulsive, coming on suddenly? Often in moments of anger? Have you actually done anything?" The clinician then rates the response(s) against the following criteria: 0 = "absent", 2 = "suicidal thoughts possibly impulsive", 4 = "impulsive suicidal thoughts definitely present", 6 = "impulsive suicidal attempt(s) (like trying to jump out of a car)". Rating scores are based on the clinicians' observations and self-report information. Non-impulsive suicidal thoughts are rated as zero.	SIM	≥ 2
MINI Brief diagnostic interview for identifying common psychiatric disorders. Answers to suicidality items can also be used to stratify suicide risk	N/A	The MINI was developed as a short psychiatric interview to mirror the criteria for diagnosing DSM disorders[a]	Clinician-rated	Suicide module - the number and choice of questions asked depends on the responses given to preceding question(s). Questions are asked regarding suicidal thoughts, suicidal actions/preparations and suicide attempts (both current – past month – and lifetime). A stratification of low, medium or high suicide risk can also be conducted, based on the question responses provided. Example questions include: "in the past month, have you thought you would be better off dead or wish that you were dead?" and "have you taken any active steps to prepare to injure yourself or to prepare for a suicide attempt in which you expected or intended to die?". Response options are YES/NO.	SI, SIB'S SP, SA, SR	YES
MINI Kid	N/A	The MINI Kid was developed for adolescence between ages 13-17 years old. It similarly mirrors the criteria for diagnosing DSM disorders[a]		Suicide Module – as above. The number and choice of questions asked depends on the responses given the preceding question(s).	SI, SIB'S SP, SA, SR	YES
Mothers of Preterm Babies Postpartum Depression Scale*	1	Literature review of postnatal depression, with	Self-reported	Suicidal thoughts item – "feel like ending it all for me or the baby to stop being a burden to others"	SI	Not reported

9-item scale to screen for postnatal distress in mothers of preterm babies		consideration to existing, relevant measures		Assesses current suicidal (and/or infanticidal) thoughts, on a five-point scale. Response options range from 1 = "not at all" or "never", to 5 = "most times" or "frequently experienced daily".		
PDSS* 35-item scale to screen for postnatal depression symptoms	5 (Suicidal thoughts subscale)	Qualitative research with women experiencing postnatal depression	Self-reported	Suicidal thoughts subscale Assesses suicidal thoughts the over past two-weeks, on a five-point scale. Response options range from 1 = "strongly disagree" to 5 = "strongly agree". Item-7 = "started thinking that I would be better off dead", item-14 = "have thought that death seemed like the only way out of this living nightmare", item-21 = "wanted to hurt myself", item-28 = "felt that my baby would be better off without me", item-35 = "just wanted to leave this world".	SI, SH	≥ 1 on any item
PHQ-9* 9-item scale to screen for depression symptom prevalence and severity	1	Depression module from the PRIME-MD[b] diagnostic instrument for common mental disorders	Self-reported	Item-9 – "have you had thoughts that you would be better off dead, or of hurting yourself in some way"? Assesses suicidal and/or self-harm thoughts over the past two-weeks, on a four-point scale. Response options range from 0 to 3: 0 = "not at all", 1 = "several days", 2 = "more than half the days", 3 = "nearly every day".	SI, SH	≥ 1
SCID* Semi-structured interview guide for making DSM-IV diagnoses	N/A	The SCID was developed to mirror the criteria for diagnosing DSM disorders[a]	Clinician-rated	Suicidality items Question prompts/guides to identify and assess current suicidality. Examples include: "have you been thinking you would be better off dead? Have you been thinking about hurting yourself? Have you thought about or made plans about how you may hurt yourself? Have you ever attempted to harm yourself? If a person reports any suicidality, further questions may be asked.	SI, SH, SIBs, SP, SA, SR	Not applicable
SRQ-20 20-item scale to screen for mental disorders	1	Developed by WHO to screen for mental disorders, particularly in developing countries.	Self-reported	Item-17 – "has the thought of ending your life been on your mind?" Assesses suicidal thoughts over the past 30-days. Response options are YES/NO.	SI	YES

Notes: * measure has also been validated in perinatal populations

Measures: BDI/BDI-SF = Beck Depression Inventory or Beck Depression Inventory Short-Form (Beck et al.,1961, 1996); BSSI = Beck Scale for Suicide Ideation (Beck et al., 1988); CIDI/CIDI-V = The World Mental Health (WMH) Survey Initiative Version of the World Health Organization (WHO) Composite International Diagnostic Interview (Kessler & Ustün, 2004); C-SSRS/eC-SSRS = Columbia-Suicide Severity Rating Scale or the electronic Columbia-Suicide Severity Rating Scale (Posner et al., 2011); EPDS = Edinburgh Postnatal Depression Scale (Cox et al., 1987); HRSD = The Hamilton Depression Rating Scale (Hamilton, 1960); IDAS = Inventory of Depression and Anxiety Symptoms (Watson et al., 2007); KMDRS = Koukopoulos Mixed Depression Rating Scale (Sani et al., 2014); MINI/MINI Kid = MINI-International Neuropsychiatric Interview (Sheehan et al., 1998) or MINI-International Neuropsychiatric Interview for Children and Adolescents (Sheehan et al., 2010); Mothers of Preterm Babies Postpartum Depression Scale

(Ishola et al., 2018); PDSS = Postpartum Depression Screening Scale (Beck & Gable, 2000); PHQ-9 = Patient Health Questionnaire-9 (Kroenke et al., 2001); SCID = Structured Clinical Interview for DSM-IV disorders (American Psychiatric Association, 1994; First & Gibbon, 2004); SRQ-20 = Self-Reporting Questionnare-20 (Harding et al., 1980).
Suicidality constructs: S = Suicidality (experiencing one or more suicide construct, including, suicidal ideation, suicidal behaviours, suicide attempts); SA = Suicide attempt(s) (previous attempts to take own life); SH = Self-harm ideation (persistent thoughts and/or rumination of self-harm); SI = Suicidal ideation (persistent thoughts and/or rumination of suicide); SIBs = Suicidal ideation and behaviours (persistent thoughts and/or rumination of suicide, including risky and/or harmful behaviours); SIM = Suicidal impulsiveness (sudden onset of suicidal thoughts and/or behaviours); SP = Suicide plans (making plans and/or preparations to take own life); SR = Suicide risk (may be at risk of taking own life, and may also be experiencing suicidal ideation and/or behaviours).
Superscript references: American Psychiatric Association (1994)[a]; Spitzer et al. (1994)[b]; Watson et al. (1995)[c]; Koukopoulos et al. (2007)[d]; World Health Organisation (1990)[e].

As seen in Tables 3.2 and 3.3 the suicidality measures varied by the suicidality construct assessed, the incidence period for assessment (e.g., symptoms in the past seven-days, or month), the administration of the measure (e.g., self-report or clinician-rated assessment) and the number of items used (e.g., PHQ-9 examines suicidal and self-harm ideation using one item, whereas the PDSS has a five-item subscale). Likewise, the suicidality prevalence rates (%) presented in Table 3.2 varied. These should be viewed as an overall 'spectrum' of incidence during the perinatal period, whilst recognizing that prevalence rates differ depending upon numerous factors, such as, sample type, sample size, the suicidality construct assessed and/or differing measurement cut-off scores. Antenatal suicidality prevalence ranged from 1% using the EPDS, item-10, in a retrospective sample of 178 women recruited through antenatal clinics in Australia (Boghossian et al., 2020) to 45.6% using the Beck Depression Inventory, item-9 (BDI, Beck et al., 1961) in a clinical sample of 114 pregnant adolescents in Malaysia (Chan et al., 2016). Postnatally, suicidality prevalence ranged from 0.6% using the EPDS, item-10, in a population-based cohort of 1278 Vietnamese women (Wesselhoeft et al., 2020) to 58.7% using the PDSS, SUI in a sample of 155 Latina mothers (living in the USA) who were at high-risk for postnatal depression (Le et al., 2010).

3.4.4 Review question two – suicidality measures validated with perinatal women: study characteristics

Thirty-five articles were included for Q2. An overview is provided in Table 3.4. Sample sizes for examining the psychometric properties of suicidality measures ranged from $n = 45$ (Koukopoulos et al., 2021) to $n = 8425$ (Paul et al., 2021), with ten studies antenatally, 21 postnatally and four perinatally. Publication dates ranged from 2000 to 2021, across 13 countries with 42% from the USA. Measuring suicidality or the validation of a measure of

suicidality was the primary focus in 34% of the studies. The remainder focused on validating a depression measure, with suicidality included.

Table 3.4 Characteristics of studies included in Q2 of review

Article Citation	Country	*n*	Antenatal, postnatal, or perinatal	Sample	Measure, item, or subscale	Reference standard	Validity	Reliability	Suicidality construct measured, prevalence (%) and *n*
Beck & Gable (2000)	USA	525	Postnatal 2 weeks – 6 months	H, CL	PDSS, SUI	-	Construct, content	Internal consistency, item-total correlation	SI
Beck & Gable (2001a)	USA	150[a]	Postnatal 2-12 weeks	C	PDSS, SUI	SCID	Concurrent	Internal consistency	SI
Beck & Gable (2001b)	USA	150[a]	Postnatal 2-12 weeks	C	PDSS, SUI	SCID	Discriminant	Internal consistency	SI
Beck & Gable (2003)	USA	377	Postnatal 2-12 weeks	PC	PDSS, SUI – Spanish version	-	Construct, cross-cultural, content	Internal consistency, item-total correlation, alternate form equivalence	SI
Beck & Gable (2005)	USA	150	Postnatal 2-12 weeks	PC	PDSS, SUI – Spanish version	-	Discriminant, cross-cultural	Internal consistency	SI
Blucker et al. (2014)	USA	385 110[f]	Postnatal 2 weeks	H	PDSS, SUI	-	Construct	Internal consistency	SI, SH
Boyd & Worley (2007)	USA	76	Postnatal 2 weeks – 3 months	C	PDSS, SUI	-	-	Internal consistency	SI
Cantilino et al. (2007)	Brazil	120	Postnatal 2-26 weeks	H	PDSS, SUI – Brazilian Portuguese version	-	Cross-cultural	Internal consistency	SI
Coker et al. (2017)	USA	842[b]	Postnatal < 13 weeks	CL	EPDS, item-10; BDI, item-9; HRSD, item-3	-	Concurrent	-	EPDS SH = 22.3%, 129/577 BDI SI/SH = 16.1%, 132/818 HRSD SI/SH = 11.5%, 85/738
Corbani et al. (2017)	Italy	830	Antenatal	H	EPDS, item-10; BDI-SF, item-7 – Italian version	-	Concurrent	-	EPDS S = 1.3%, 11/830 BDI-SF S = 1.3%, 9/691
Howard et al. (2011)	England	4,150 331	Postnatal i. 6 weeks (screening)	PC, CL	EPDS, item-10	CIS-R	Criterion	-	EPDS SH/SI = 9%[1], 374/4,150 SH/SI = 4%[2], 166/4,150 (6-weeks screening)

			ii. 8-26 weeks (home-visit) iii. 4 weeks (after home-visit) iv. 18 weeks (after home-visit)						
Iliadis et al. (2018)	Sweden	305	Postnatal i. 5 days ii. 6 weeks iii. 6 months	PB, SR	EPDS, item-10	-	Predictive	-	SH
Ishola et al. (2018)	Nigeria	124 152	Postnatal < 4 weeks	H, CL	Mothers of Preterm Babies Postpartum Depression Scale, suicidal thoughts item	-	Construct, content	Internal consistency	SI
Karaçam & Kitiş (2007)	Turkey	445	Postnatal 2-13 weeks	PC	PDSS, SUI – Turkish version	-	Construct, concurrent, cross-cultural	Internal consistency, item-total correlation, test-retest	SI
Knettel et al. (2020)	Tanzania	200	Perinatal Antenatal 2nd or 3rd trimester Postnatal 6 months	H	EPDS, item-10; PHQ-9, item-9	-	Concurrent	Item-total correlation	EPDS, antenatal SI = 18%, 36/200 EPDS, postnatal SI = 3.9%, 7/179 PHQ-9, antenatal SI = 6%, 12/200 PHQ-9, postnatal SI = 3.9%, 7/179
Koukopoulos et al. (2021)	Italy	45	Perinatal	CL	KMDRS, item-12	-	Discriminate, construct	-	SIM
Le et al. (2010)	USA	155	Postnatal 6-8 weeks	PC, CL	PDSS, SUI – Spanish version	-	-	Internal consistency	SH = 58.7%, 91/155
Mauri et al. (2012)	Italy	1,066	Perinatal Antenatal i. 3 months ii. 6 months iii. 8 months Postnatal i. 1 month ii. 3 months iii. 6 months	H, SR	EPDS, item-10	-	Concurrent	-	EPDS, antenatal S = 12%, point prevalence EPDS, postnatal S = 8.6%, point prevalence

			iv. 9 months v. 12 months						
McCabe et al. (2012)	USA	111[f]	Postnatal > 14 days	H, SR	PDSS, SUI	-	Construct	Internal consistency	SI
Na et al. (2018)	USA	46	Antenatal	CL, SR	PHQ-9, item-9	eC-SSRS	Criterion	-	eC-SSRS SIBs = 4.3%, 2/46 PHQ-9 SI/SH = 21.7%, 10/46
Newport et al. (2007)	USA	383[b]	Antenatal	CL	BDI, item-9; HRSD, item-3	-	Concurrent	-	BDI SI = 27.8%, 96/345 HRSD SI = 16.7%, 51/305
Palfreyman (2021)	Sri Lanka	1,000	Antenatal	H, C	eC-SSRS – English, Sinhala & Tamil versions	-	Cross-cultural	Internal consistency	SIBs = 7.4%, 74/1,000
Paul et al. (2021)	England	8,425	Perinatal Antenatal i.18 weeks ii. 32 weeks Postnatal i. 8 weeks ii. 8 months	P	EPDS, item-10	-	Predictive	-	Antenatal SH = 4.23% (i) SH = 2.24% (ii) Postnatal SH = 1.52% (i) SH = 2.24% (ii)
Pereira et al. (2010)	Portugal	486[c]	Postnatal 3 months	H	PDSS, SUI – Portuguese version	DIGS	Concurrent, cross-cultural	Internal consistency, item-total correlation	SI
Pereira et al. (2011)	Portugal	503[c]	Antenatal 3rd trimester	H	PDSS, SUI – Portuguese version	DIGS	Concurrent, cross-cultural	Internal consistency, item-total correlation	SI
Pinheiro et al. (2008)	Brazil	317 368	Postnatal *n* = 317(CL) 30-120 days *n* = 368(PB) 6-12 weeks	PB, CL	BDI, item-9	MINI, suicide module	Criterion	-	MINI (SR sample) SR = 5.7%, 18/317 SA = 1.6%, 5/317 BDI (SR sample) S = 11.1%, 35/317 BDI (PB sample) S = 8.3%, 32/386
Quelopana et al. (2011)	Chile	163	Postnatal > 2 weeks	PC	PDSS, SUI – Spanish version	-	-	Internal consistency	SI = 32%, 53/163
Rochat et al. (2011)	South Africa	109[d]	Antenatal 3rd trimester	PC	SCID, suicidality questions – IsiZulu version	-	Construct, cross-cultural	-	S = 27.5%, 30/109 SP = 22%, 24/109 SA = 1.8%, 2/109
Rochat et al. (2013)	South Africa	109[d]	Antenatal 3rd trimester	PC	EPDS, item-10	SCID	Criterion	-	SCID S = 27.5%, 30/109

									SP = 22%, 24/109 SA = 1.8%, 2/109
Rychnovsky & Beck (2006)	USA	109	Postnatal i. 1-3 days ii. 2 weeks iii. 6 weeks	H	PDSS, SUI	-	-	Internal consistency	SI
van Heyningen et al. (2019)	South Africa	376	Antenatal 1st antenatal visit	PC	EPDS, item-10; PHQ-9, item-9	MINI, suicide module	Criterion, cross-cultural	-	MINI SIBs = 18%, 69/376
Watson et al. (2007)	USA	830	Postnatal < 4 months	C	IDAS, suicidality items	-	Construct, concurrent	Internal consistency	SI, SH, SIBs, S
Yawn et al. (2009)	USA	481	Postnatal 5-12 weeks	PC	EPDS, item-10; PHQ-9, item-9	-	Concurrent	-	SI
Zhong et al. (2014)	Peru	1,520[e]	Antenatal ≤ 16 weeks	PC, SR	PHQ-9, item-9 – Spanish version	-	Construct, cross-cultural	-	SI
Zhong et al. (2015)	Peru	1,517[e]	Antenatal ≤ 16 weeks	PC, SR	PHQ-9, item-9; EPDS, item-10	-	Concurrent	-	PHQ-9 SI = 15.8%, 239/1,517 EPDS SI = 8.8%, 134/1,517

Notes: (1) the same alphabet letter in superscript ([a,b,c]) represents the same sample or the sample was drawn from the same cohort; (2) Howard et al. (2011) looked at prevalence using two different cut-offs for EPDS, item-10. [1] = a response of hardly ever, sometimes or often, and [2] = sometimes or often; (3) the prevalence rates presented are for the entire *antenatal, postnatal, perinatal* study sample and not just those with comorbid mental health disorders; (4) the *suicidality construct measured* refers to the constructs of interest that were examined by a study, which may not necessarily be the same construct of interest (and/or *incidence period*) that the measure was originally developed to assess or identify.

Sample: C = Community; CL = Clinical (e.g., diagnosis of a mood disorder and/or experiencing self-reported mental health concerns); H = Hospital or medical clinic; PB = Population based; PC = Primary care; SA = Secondary analysis; SR = Sub-sample of wider research or ongoing cohort.

Measures: BDI/BDI-SF = Beck Depression Inventory or Beck Depression Inventory Short-Form (Beck et al.,1961, 1996); eC-SSRS = Electronic Columbia-Suicide Severity Rating Scale (Posner et al., 2011); EPDS = Edinburgh Postnatal Depression Scale (Cox et al., 1987); HRSD = The Hamilton Depression Rating Scale (Hamilton, 1960); IDAS = Inventory of Depression and Anxiety Symptoms (Watson et al., 2007); KMDRS = Koukopoulos Mixed Depression Rating Scale (Sani et al., 2014); MOODS-SR = Mood Spectrum Self-Report (Dell'Osso et al., 2002); Mothers of Preterm Babies Postpartum Depression Scale (Ishola et al., 2018); PDSS = Postpartum Depression Screening Scale (Beck & Gable, 2000); PHQ-9 = Patient Health Questionnaire-9 (Kroenke et al., 2001); SCID, = Structured Clinical Interview for DSM-IV disorders (American Psychiatric Association, 1994; First & Gibbon, 2004).

Reference standards: CIS-R = Clinical Interview Schedule-Revised (Lewis et al., 1992); DIGS = Diagnostic Interview for Genetic Studies (Nurnberger et al., 1994); eC-SSRS = Electronic Columbia-Suicide Severity Rating Scale (Posner et al., 2011); MINI = MINI-International Neuropsychiatric Interview (Sheehan et al., 1998); SCID = Structured Clinical Interview for DSM-IV disorders (American Psychiatric Association, 1994; First & Gibbon, 2004).

Suicidality constructs: S = Suicidality (experiencing one or more suicide construct, including, suicidal ideation, suicidal behaviours, suicide attempts); SA = Suicide attempt(s) (previous attempts to take own life); SH = Self-harm ideation (persistent thoughts and/or rumination of self-harm); SI = Suicidal ideation (persistent thoughts and/or rumination of suicide); SIBs = Suicidal ideation and behaviours (persistent thoughts and/or rumination of suicide, including risky and/or harmful behaviours); SP = Suicide plans (making plans and/or preparations to take own life); SR = Suicide risk (may be at risk of taking own life, and may also be experiencing suicidal ideation and/or behaviours).

3.4.5 Review question two – suicidality measures validated with perinatal women: study quality

Quality ratings for included studies are presented in Table 3.5. These are summarised as follows: 17% of studies provided evidence for five (of the 11) assessment criteria; 9% evidenced six criteria; 28% evidenced seven criteria; 26% evidenced eight criteria; 14% evidenced nine criteria; and 6% evidenced ten criteria. No studies provided evidence for all 11 assessment domains. Furthermore, sample size criteria were not present for 74% of studies, an appropriate reference standard was either missing or unclear for 74% of studies, and 51% did not report on dropout/withdrawals. If no discussion or justification of sample size was provided, the study was marked as "no" or "unclear" for this criterion, regardless of whether an acceptable sample size for the validation method was used.

Table 3.5 Quality assessment for studies in Q2 of review

Article citation	Study aims	Sample size	Inclusion/ exclusion	Sample characteristics	Representative sample	Reference standard	Validity reported	Reliability reported	Dropouts specified	Data description	Generalisability
Beck & Gable (2000)	+	?	-	-	+	-	+	+	?	+	-
Beck & Gable (2001a)	+	?	+	+	?	+	+	+	-	+	-
Beck & Gable (2001b)	+	?	+	+	+	+	+	+	-	+	-
Beck & Gable (2003)	+	?	+	+	+	-	+	+	-	+	-
Beck & Gable (2005)	+	?	+	+	+	-	+	+	-	+	-
Blucker et al. (2014)	+	?	+	-	-	-	+	+	+	+	+
Boyd & Worley (2007)	+	?	+	+	+	-	-	+	+	+	+
Cantilino et al. (2007)	+	?	+	+	+	-	+	+	?	+	-
Coker et al. (2017)	+	+	+	+	+	-	+	-	?	+	+
Corbani et al. (2017)	+	?	-	+	-	-	+	-	-	+	+
Howard et al. (2011)	+	+	+	+	+	+	+	-	+	+	+
Iliadis et al. (2018)	+	?	+	+	+	-	+	-	+	+	+
Ishola et al. (2018)	+	?	+	+	?	-	+	+	-	+	+
Karaçam & Kitiş (2007)	+	?	+	+	+	-	+	+	-	+	-

Knettel et al. (2020)	+	+	+	+	+	-	+	+	+	+	+
Koukopoulos et al. (2021)	+	-	?	+	-	-	+	-	-	+	+
Le et al. (2010)	+	?	+	+	+	-	-	+	+	+	+
Mauri et al. (2012)	+	+	+	+	?	-	+	-	+	+	+
McCabe et al. (2012)	+	?	+	+	+	-	+	+	+	+	+
Na et al. (2018)	+	-	?	?	?	+	+	-	?	+	+
Newport et al. (2007)	+	?	-	+	+	-	+	-	?	+	-
Palfreyman (2021)	+	+	+	+	-	-	+	+	+	+	+
Paul et al. (2021)	+	+	+	+	+	-	+	-	+	+	+
Pereira et al. (2010)	+	?	+	-	+	+	+	+	+	+	?
Pereira et al. (2011)	+	?	?	+	+	+	+	+	+	+	+
Pinheiro et al. (2008)	+	?	?	+	-	+	+	-	-	+	+
Quelopana et al. (2011)	+	?	+	+	+	-	-	+	-	+	-
Rochat et al. (2011)	+	?	+	+	-	-	+	-	+	+	+
Rochat et al. (2013)	+	?	+	+	+	+	+	-	+	+	+

Rychnovsky & Beck (2006)	+	?	+	+	?	-	-	+	-	+	-
van Heyningen et al. (2019)	+	?	+	+	+	+	+	-	?	+	+
Watson et al. (2007)	+	+	?	-	?	-	+	+	?	+	+
Yawn et al. (2009)	+	?	+	+	+	-	+	-	+	+	-
Zhong et al. (2014)	+	+	+	+	+	-	+	-	+	+	?
Zhong et al. (2015)	+	+	?	+	+	-	+	-	+	+	?

Notes: + = present; - = no; ? = unclear.

3.4.6 Review question two – suicidality measures validated with perinatal women: identified measures

The validity and/or reliability of ten suicidality measures were reported. Fifteen studies validated the PDSS, SUI subscale; 11 validated the EPDS, item-10; six validated the PHQ-9, item-9; four validated the Beck Depression Inventory, item-9 (BDI, Beck et al., 1961) or the Beck Depression Inventory Short-Form, item-7 (BDI-SF, Beck et al., 1996), which uses the same wording; two validated the Hamilton Rating Scale for Depression, item-3 (HRSD, Hamilton, 1960); one validated the SCID, suicidality items; and four studies validated other measures. See Table 3.6 for a summary of the types of validity and/or reliability reported per measure.

Table 3.6 Number of studies reporting psychometrics for each measure in Q2 of review

Measure, item, or subscale	Content Validity (no. of studies)	Criterion Validity (no. of studies)	Concurrent Validity (no. of studies)	Construct Validity (no. of studies)	Discriminant Validity (no. of studies)	Predictive Validity (no. of studies)	Cross-cultural Validity (no. of studies)	Internal Consistency (no. of studies)	Test-retest Reliability (no. of studies)	Item-total Correlation (no. of studies)
BDI, item-9 or BDI-SF, item 7		X (n = 1)	X (n =3)							
eC-SSRS							X (n = 1)	X (n = 1)		
EPDS, item-10		X (n = 3)	X (n = 6)			X (n = 2)	X (n = 1)			X (n = 1)
HRSD, item-3			X (n = 2)							
IDAS, suicidality subscale			X (n = 1)	X (n = 1)				X (n = 1)		
KMDRS, item-12				X (n = 1)	X (n = 1)					
Mothers of Preterm Babies Postpartum Depression Scale, Suicide item	X (n = 1)			X (n = 1)				X (n = 1)		
PDSS, SUI	X (n = 2)		X (n = 4)	X (n = 5)	X (n = 2)		X (n = 6)	X (n = 15)	X (n = 1)	X (n = 5)
PHQ-9, item-9		X (n = 2)	X (n = 3)	X (n = 1)			X (n = 2)			X (n = 1)
SCID, Suicidality questions				X (n = 1)			X (n = 1)			

Notes: (1) seven studies validated more than one suicidality measure; (2) later and/or adapted versions of a measure that uses the same item wording have been grouped together.
Measures: BDI/BDI-SF = Beck Depression Inventory or Beck Depression Inventory Short-Form (Beck et al.,1961, 1996); eC-SSRS = Electronic version of Columbia-Suicide Severity Rating Scale (Posner et al., 2011); EPDS = Edinburgh Postnatal Depression Scale (Cox et al., 1987); HRSD = The Hamilton Depression Rating Scale (Hamilton, 1960); IDAS = Inventory of Depression and Anxiety Symptoms (Watson et al., 2007); KMDRS = Koukopoulos Mixed Depression Rating Scale (Sani et al., 2014); Mothers of Preterm Babies Postpartum Depression Scale (Ishola et al., 2018); PDSS = Postpartum Depression Screening Scale (Beck & Gable, 2000); PHQ-9 = Patient Health Questionnaire-9 (Kroenke et al., 2001); SCID = Structured Clinical Interview for DSM-IV disorders (American Psychiatric Association, 1994; First & Gibbon, 2004).

Concurrent validity was reported most frequently (12 studies), followed by construct validity (ten studies), cross-cultural validity (ten studies), criterion validity (five studies), discriminant validity (three studies), content validity (three studies), and predictive validity (two studies). Eighteen studies reported internal consistency, seven reported item-total correlations and one reported test-retest reliability. Fifteen studies reported both validity and reliability data, 12 reported more than one type of validity, seven validated more than one measure, and four only reported reliability.

Nearly all the identified measures primarily screened for depression with an item or subscale assessing at least one suicidality construct. The electronic version of the Columbia-Suicide Severity Rating Scale (eC-SSRS, Posner et al., 2011) was the only exception as it specifically assesses suicidality. Three measures were specifically developed for perinatal women. Four measures used a single suicidality item, and five measures used a subscale and/or were clinician-led questions. Suicidal ideation was assessed most frequently, with a caveat that some items ask about "thoughts of self-harm" which is not limited to suicidal ideation per se. Time taken to complete suicidality items varied. Where stated, the completion of self-report items or subscales ranged from one- to five-minutes. Clinician-led assessments took longer due to more open-ended questioning. Over half of the measures were freely available to use (55%), although restrictions were unclear for four. A descriptive summary of each measure is provided in Table 3.3.

Each measure is outlined below, with a summary of reported validity and/or reliability in perinatal populations.

3.4.6.1 Postpartum Depression Screening Scale, suicidal thoughts subscale (PDSS, SUI)

Four studies reported concurrent validity for the PDSS, SUI, in perinatal populations, and all validated the SUI against a measure of depression. Postnatally, Beck and Gable (2001a)

reported a medium effect size of $r^2 = .12$ between the SUI and a diagnostic classification of major/minor postnatal depression, using the SCID interview. There was a moderate significant agreement between the SUI and EPDS, $r = .55$ ($p < 0.0001$) and the SUI and BDI, $r = .60$ ($p < 0.0001$) (Karaçam & Kitiş, 2008), and a positive significant correlation between the SUI and BDI-II, both antenatally, $r_s = .221$ ($p > 0.001$) (Pereira et al., 2011), and postnatally $r_s = .162$ ($p \leq 0.001$) (Pereira et al., 2010). However, the discriminant validity of the SUI for differentiating between non-depressed and depressed mothers (assessed by diagnostic interview) was poor, $r = .36$ (Beck & Gable, 2001b) and $r = .41$ (Beck & Gable, 2005). It is also important to note that concurrent validity for the SUI has been established against measures of depression, which were not limited to suicidality questions. This may have implications for validity, especially when considering which psychological constructs were correlated.

Five studies reported construct validity for the SUI in the postnatal period. Confirmatory factor analysis (CFA) generated loadings of .70 to .92 for the original five-item subscale (Beck & Gable, 2000, 2003) and item response theory (IRT) techniques also confirmed a good item spread, with logit values for the Likert response categories steadily increasing from -2.72 (1 = “strongly disagree”) to 1.23 (5 = “strongly agree”), indicating an ordered attitude continuum (Beck & Gable, 2000). One study (Karaçam & Kitiş, 2008) reported a six-factor solution for the PDSS (contrary to the seven-factor model proposed by Beck & Gable, 2000), with an 11-item SUI subscale (loadings ranged from .34 to .77) and two studies (Blucker et al., 2014; McCabe et al., 2012) determined a five-factor model, with all five items of the SUI loading between .60 to .88.

Fifteen studies reported reliability. Internal consistency for the SUI was generally high, ranging from $\alpha = .76$ (Cantilino et al., 2007) to $\alpha = .97$ (Le et al., 2010), with 93% of studies reporting $\alpha > .80$. Correlation coefficients between each SUI item and their respective total

subscale score were good, mostly above $r = .50$, ranging from $r = .67$ to $r = .88$, apart from one study (Karaçam & Kitiş, 2008) which reported a coefficient of $r = .44$. Test-retest reliability was reported by Karaçam & Kitiş (2008), with a stability coefficient of $r = .80$ ($p < 0.0001$) fifteen days after the original assessment.

Six studies demonstrated cross-cultural validity for the SUI, across four languages: Brazilian Portuguese (Cantilino et al., 2007); Portuguese (Pereira et al., 2010, 2011); Turkish (Karaçam & Kitiş, 2008); and Spanish (Beck & Gable, 2003, 2005). An alternate forms equivalence test between the English and Spanish versions, confirmed a strong correlation between the SUI subscales, $r = .97$ ($p < .01$).

3.4.6.2 Edinburgh Postnatal Depression Scale, item-10 (EPDS)

Three studies reported criterion validity for the EPDS, item-10, against suicidality questions from a gold standard measure (e.g., diagnostic/clinical interview). One study demonstrated good sensitivity (77%, CI 57-89) and excellent specificity (92%, CI 83-96) for item-10 antenatally, against the SCID (Rochat et al., 2013). However, van Heyningen et al. (2019) reported low sensitivity for item-10 (37%) and high specificity (82%) against the MINI Plus suicidality criteria in their antenatal sample, with 74% of cases correctly classified. Postnatally, there was a significant association between item-10 and the revised computerised Clinical Interview Schedule (CIS-R) suicide items (chi^2 statistic = 145.81, $p < 0.001$), with a moderate agreement (kappa statistic = .42) seen in 79% of cases (Howard et al., 2011).

Six studies reported concurrent validity for the EPDS, item-10. Perinatally, a partial overlap was seen between item-10 and the Mood Spectrum Self-Report (MOODS-SR, Dell'Osso et al., 2002) suicide items, although suicidality endorsement was significantly higher overall for item-10, compared to the MOODS-SR (Mauri et al., 2012). Antenatally, the period prevalence of suicidality assessed by item-10 was 12%, and 6.9% for the MOODS-

SR. Postnatally, the period prevalence was 8.6% and 4.3% respectively. Likewise, higher rates of self-harm/suicidal ideation endorsement were reported postnatally for item-10 (22.3%), compared to BDI, item-9 (16.1%) and HRSD, item-3 (11.5%) (Coker et al., 2017). Only 2.9% of women who endorsed self-harm/suicidal ideation across these measures were missed by the EPDS. For participants assessed using all three items, 13.8% only endorsed self-harm on the EPDS and/or BDI (self-report measures), whereas 2.4% only endorsed the HRSD item (clinician rated), suggesting that self-report scales may have greater sensitivity for identifying self-harm ideation than clinician-rated scales. However, concurrent validity for item-10 of the EPDS may be at risk of bias due to differing conceptualisations of suicidal and self-harm ideation, e.g., item-10 asks about thoughts of self-harm – which may or may not be interpreted to include suicidal ideation – whereas other measures of suicidality are more specific.

Two studies demonstrated predictive validity for item-10. Iliadis et al. (2018) found that women who endorsed self-harm thoughts (SHTs) during the first six-months postnatally were at increased risk of somatic and psychiatric morbidity over a seven-year period (follow-up data retrieved from medical records) compared to women who screened positive for depression (EPDS cut-off ≥ 12, without SHTs) and/or healthy controls (women reporting no postnatal SHT's or depression). Paul et al. (2021) also found that the offspring of mothers who endorsed perinatal SHTs and depression (SHTsxD) were at increased risk for SHTs and depression at age 24. A significant interaction was seen ($p = .036$) at 18-weeks gestation between maternal SHTsxD and offspring SHTs, and at 32-weeks gestation, 8-weeks postnatal and 8-months postnatal the association between maternal SHTsxD and offspring depression were $p = .002$, $p = .035$ and $p = .028$, respectively. However, the construct of interest for these studies was 'self-harm thoughts' and not suicidal ideation. This may mean that the

predictive value of EPDS item-10 is overestimated when only considering it in terms of suicidal ideation.

3.4.6.3 Patient Health Questionnaire-9, item-9 (PHQ-9)

Two studies reported criterion validity for the PHQ-9, item-9 antenatally. van Heyningen et al. (2019) reported low sensitivity for item-9 (28%) and good specificity (72%) against the MINI Plus criteria for detecting suicidality, with 64% of cases correctly classified. Na et al. (2018) assessed item-9 against the electronic version of the Columbia-Suicide Severity Rating Scale (eC-SSRS). The sensitivity of item-9 for detecting suicide risk was 100% (CI, 34.2-100) and specificity was 81% (CI, 68-90.5), demonstrating some utility for identifying suicide risk in perinatal populations. The positive predictive value (PPV) of item-9 was low at 20% and the negative predictive value was 100% (CI, 90.4-100). However, the sample of pregnant women in this study was small (n = 46).

Three studies reported concurrent validity for item-9. Antenatally, a high concordance rate (e.g., both scores were 'normal' or both scores were 'elevated' – as opposed to discordance, where one score is normal and one is in the elevated range) was seen between PHQ-9 item-9, and EPDS item-10 (84.2%) (Zhong et al., 2015). However, based on Cohen's kappa only a moderate agreement was demonstrated (.42). This may be due to differences in wording and/or reporting periods for the two items. Suicidal ideation prevalence was higher when assessed by the PHQ-9 – compared to the EPDS – at 15.8% vs 8.8%. Similarly, a very high concordance between PHQ-9 item-9 and EPDS item-10 was seen postnatally (93.8%), and suicidal ideation was again endorsed more frequently on the PHQ-9 than the EPDS (8.8% vs 7.3%) (Yawn et al., 2008). Knettel et al. (2020) also found a strong correlation in participant responses to PHQ-9 item-9, and EPDS item-10 antenatally (r = .678, p < .001) and at six-months postnatal (r = .894, p < .001). However, contrary to Zhong et al. (2015) and

Yawn et al. (2008), 14% of participants endorsed suicidal ideation using only EPDS item-10, 5% endorsed suicidal ideation using both the PHQ-9 and EPDS items, but none endorsed suicidal ideation using only PHQ-9, item-9.

One study reported construct and cross-cultural validity for the Spanish version of the PHQ-9, item-9 by demonstrating evidence of unidimensionality, local independence and acceptable fit to a Rasch Item Response Theory model (Zhong et al., 2014). The four original response categories were disordered in the Spanish version. Model fit was improved by collapsing these categories into a three-point Likert scale in which "more than half the days" and "nearly every day" were combined. Further research is needed to validate the three-point scale version.

3.4.6.4 Beck Depression Inventory, item-9 (BDI) and Beck Depression Inventory Short Form, item-7 (BDI-SF)

One study reported criterion validity for the BDI, item-9. When compared to the MINI, a cut-off score of 0/1 on BDI item-9 provides greater sensitivity (83.3%) but lower specificity (93.3%) for identifying suicidal ideation, rather than a cut-off of 1/2 (44.4% sensitivity; 99% specificity) (Pinheiro et al., 2008).

Two studies reported concurrent validity for the BDI, item-9 and one study reported concurrent validity for the BDI-SF, item-7. Antenatally, item-9 has shown greater sensitivity for identifying suicidal ideation, relative to item-3 of the HRSD (77.8% vs 44.9%) with suicidal ideation endorsement being significantly higher on the BDI ($z = 3.39$ ($p < 0.0007$)) (Newport et al., 2007). Similarly, postnatal rates of self-harm/suicidal ideation endorsement were higher using the BDI than the HRSD, as previously stated in section 3.4.6.2 (Coker et al., 2017). A low agreement between item-7 of the BDI-SF and EPDS item-10 has also been demonstrated antenatally (kappa statistic = .253) (Corbani et al., 2017).

3.4.6.5 Hamilton Rating Scale for Depression, item-3 (HRSD)

Two studies reported concurrent validity for the HRSD item 3, with the EPDS item-10, and BDI item-9 (Coker et al., 2017; Newport et al., 2007) – as stated in sections 3.4.6.2 and 3.4.6.4.

3.4.6.6 Structured Clinical Interview for DSM-IV diagnoses (SCID), suicidality items

One study examined the cross-cultural and construct validity of the SCID, suicidality items (Rochat et al., 2011). Exploratory factor analysis was performed on dichotomised scores producing one principal component, with eight variables representing six symptoms of depression. Suicidal and self-harm thoughts had the highest factor loading (.32), followed by self-harm plans (.29). Suicidal ideation prevalence was very high in this sample (28%), with 90% of those endorsing suicidal thoughts antenatally, also diagnosed with depression.

3.4.6.7 Other measures

Four studies validated other suicidality measures. Watson et al. (2007) reported on the construct and concurrent validity of the Inventory of Depression and Anxiety Symptoms (IDAS), suicidality subscale in a sample of postnatal women. The subscale demonstrated an acceptable loading onto the principal factor (.51). No further psychometrics of the six items that formed the suicidality subscale were reported. The suicidality subscale correlated significantly with the total scores of both the EPDS, and HRSD (r = .34). Internal consistency for the subscale was good, α = .74. However, similarly to the PDSS SUI, concurrent validity for the IDAS suicidality subscale was established against two full depression measures (EPDS and HRSD).

Koukopoulos et al. (2021) reported on the discriminate and construct validity of the Koukopoulos' Mixed Depression Rating Scale (KMDRS) suicidal impulsiveness item (item-12) in a small sample of perinatal women (n = 45). KMDRS item-12 was found to distinguish mixed depression symptoms (MxD) from non MxD symptoms ($p < .0001$) and demonstrated a good loading of .679 onto the "dysphoric impulsiveness and aggressiveness factor". However, it is important to note that KMDRS item-12 assessed suicidal impulsiveness, which excluded non-impulsive suicidal thoughts.

Another study reported content and construct validity for the Mothers of Preterm Babies Postpartum Depression Scale, suicidal thoughts item (Ishola et al., 2018). Exploratory factor analysis generated a three-factor solution with 14-items, five items comprised the "hopelessness and suicidal thought" (HST) factor. HST factor loadings were good, ranging from .80 to .92, and internal consistency was α = .92. CFA was also performed. Several items were removed to improve model fit, resulting in a nine-item scale, three-factor solution. The HST factor comprised three items with loadings of .73, .90 and .92, and the internal consistency was α = .87.

Lastly, one study reported cross-cultural validity (Sinhala and Tamil language) and reliability for the eC-SSRS in an antenatal sample (Palfreyman, 2021). The internal consistency of the eC-SSRS was strong, α = .91

3.5 Discussion

The purpose of this systematic review was to (1) identify; and (2) evaluate the psychometric properties of suicidality measures used in perinatal populations. Two-hundred and eight unique articles reported on a measure of suicidality in the antenatal and/or postnatal period. Thirty-five of these reported on psychometric properties, across 10 measures of suicidality. Fifteen studies reported both validity and reliability data, 12 reported more than one type of

validity, seven validated more than one measure and four only reported reliability. Over two-thirds of the studies that validated a suicidality measure used a postnatal sample. Three measures were specifically developed for perinatal women, but only two were validated in more than one study. Across all measures, the PDSS, SUI, was validated most frequently, followed by item-10 of the EPDS.

For a measure of perinatal suicidality to be useful, it needs to be thoroughly validated in that population and effective at reliably discriminating between women who may require acute care, or care in the community so that appropriate pathways are established early (e.g., referrals to specialised perinatal mental health services). Usually, this involves testing its robustness using several different validation types (e.g., concurrent, discriminant, predictive validity) with an appropriate sample (e.g., antenatal, postnatal) in differing contexts (e.g., different countries, sample types). Likewise, in clinical practice where time and financial constraints exist, a measure also needs to be appropriate for use with perinatal women, easy to administer, brief to complete and accessible (and validated) in different languages.

The validity and reliability of measures identified in this review were limited, and nearly all were either an item or subscale on a measure assessing depression symptoms. It is also noteworthy that only 12 out of the 35 studies reporting psychometric data examined suicidality in perinatal women as a primary focus. Therefore, given the scarcity of research in this area, recommendations about the use of each measure in perinatal populations have been provided tentatively, with consideration to their advantages, disadvantages and usability in clinical practice. Key issues and the wider implications of these findings follow thereafter.

The PDSS, SUI was validated the most, in both antenatal and postnatal samples, with 15 studies reporting on its validity and/or reliability. The SUI demonstrated good concurrent and construct validity, although criterion validity for the SUI is yet to be determined using a gold standard measure of suicidality in perinatal populations. Furthermore, the SUI has shown

excellent internal consistency and has been validated in four languages, making it accessible in different contexts. Content validity for the SUI (and PDSS as a whole) was based upon extensive qualitative research with postnatal women, with items worded in relation to the experience of being a new mother (Beck, 1992, 1993, 1996). Hence, it is both relevant and appropriate for use in this population. However, the authors of the PDSS contend that the SUI cannot be used as a standalone measure of suicidality in clinical practice, meaning it has limited utility outside of screening for perinatal depression symptoms more generally.

The EPDS item-10 is a commonly used measure of suicidal ideation. It has shown good sensitivity and specificity in some antenatal and postnatal samples (established against suicidality questions from a gold standard measure) (Howard et al., 2011; Rochat et al., 2013). However, item-10 of the EPDS asks about thoughts of "self-harm" which may not necessarily be interpreted to include suicidal ideation. This discrepancy could affect its validity, although research suggests that self-harm is a risk factor for suicide in postnatal women (Johannsen et al., 2019) so there may be benefit in asking this type of question for the early identification of at-risk women. Furthermore, whilst there are clear limitations of using a single item to capture complex phenomena, an advantage of item-10 is its brevity and ease of completion, which is particularly important in clinical settings. Therefore, EPDS, item-10 may have some utility for stepped care in perinatal populations (e.g., endorsement could lead to a fuller assessment of suicidality), although consideration should be given to the screening need and construct under investigation.

As opposed to the PDSS and EPDS, the PHQ-9 was not specifically developed for use with perinatal women, and there are a limited number of studies validating item-9 in antenatal and postnatal samples. A high concordance was observed between PHQ-9 item-9, and item-10 of the EPDS, but only a moderate agreement was demonstrated (Zhong et al., 2015). This might be due to differences in question wording as item-9 asks about both passive "thoughts

you would be better off dead" and active "thoughts of hurting yourself". However, the use of both active and passive language in a single screening item may also lead to a high rate of false positives because it is difficult to discern exactly 'what' is being endorsed – which is a key clinical consideration. Similar to EPDS item-10, the PHQ-9 item-9, is quick to administer – which is important in busy maternity care settings – although further research and validation in perinatal samples is required before any recommendations can be made.

Psychometric evidence concerning BDI item-9 and BDI-SF item-7 (which ask the same question) in perinatal populations is lacking. There is some support for the items' sensitivity relative to the MINI suicide items (Pinheiro et al., 2008) and HRSD item-3 (Newport et al., 2007), but inferences about its utility are not possible given the limited number of studies reporting psychometric data. Likewise, for HRSD item-3, only concurrent validity has been examined, with item-3 showing less sensitivity for identifying suicidal ideation than alternative suicidality measures. This may in part be due to how the HRSD is administered, as it is a clinician-rated measure rather than self-report. Some women may feel more reluctant to endorse suicidal ideation face-to-face (as opposed to recording it on paper), and similarly, some clinicians may feel reluctant to report and/or document that a woman is feeling suicidal (Newport et al., 2007). More research is needed to validate the suicidality items on both the BDI and HRSD as they may not currently be appropriate and/or effective for use in perinatal samples.

Of the remaining suicidality measures identified, only one study per measure reported psychometric data, and most showed little evidence to support their wider use with perinatal women at this time.

Considering these findings, several key issues have been identified. It is apparent that measures of suicidality have not been extensively validated in perinatal samples, and even those which may have some clinical utility (e.g., PDSS, EPDS) are not without limitation in

their current form. It is also important to note that measures such as the PDSS or EPDS were developed over 20 years ago, meaning there is a greater abundance of literature examining their psychometric robustness than newer measures. Newer measures may be effective for identifying possible depression and/or suicidality in perinatal women, but more validation of these is needed. Furthermore, nearly all the suicidality measures identified were either items or subscales on a depression measure, and to date, no measure has been specifically developed to identify suicidality in this population. This raises important questions, particularly if a woman does not meet the clinical cut-off threshold for depression on a specific screening measure. Likewise, of all the available suicidality measures that are used in the general population, only the eC-SSRS has been validated antenatally (Palfreyman, 2021). Given that depression and suicidality are not always comorbid, it may be necessary to screen for suicidality outside of the depression context to prevent cases from being missed. Equally, screening for suicidality in conjunction with other common symptoms of perinatal mental health disorders may maximise sensitivity, provide a more comprehensive picture of a woman's mental health, and lead to faster and more suitable care pathways. However, the administration of routine full mental health screens is costly, time-consuming, and not appropriate in over-burdened primary care services where brief and effective screening methods are required, with high specificity.

Only three of the suicidality measures identified in this review were specifically designed for use with perinatal women. When evaluating the validity of suicidality measures, it is necessary to also consider their content acceptability and appropriateness to perinatal women. Outdated and/or unfavourable language use could reinforce stigma, leading to a reluctance to answer honestly, whereas contextualising items in terms of pre- and post-motherhood may be more meaningful, and have the opposite effect. Likewise, there may also be implications in terms of self-report vs clinician-rated suicidality measures in perinatal

populations. For example, self-report may lead to over identification of cases (e.g., where a women may feel more comfortable ticking a box and/or writing something on paper) or it may also lead to underreporting given the sensitivity of the topic (e.g., a women may feel more willing to talk about suicidality face-to-face where there is opportunity for open and supportive conversation). Therefore, further research with antenatal and postnatal women is needed to address, understand, and overcome disclosure barriers regarding suicidality measures, which may be specific to this population.

3.5.1 Limitations

Due to the small number of studies that have validated and/or reported psychometric data for measures of suicidality in perinatal samples, it is difficult to draw firm conclusions about their utility or make recommendations about their use in clinical and/or research settings. The studies also differed significantly in terms of their methodological approaches, sample types, constructs of interest and administration/purpose which meant they were not easily comparable. Furthermore, the scope of this review was restricted to measures of suicidality that have been validated during the perinatal period (pregnancy and up to one-year postnatally), so studies that were conducted with postnatal women beyond this time frame were omitted. Likewise, studies were also excluded if the construct of interest was historic suicidality (e.g., prior to pregnancy) and there was insufficient information to differentiate this from suicidality identified within the perinatal period. Future research should consider examining the linkage between historic suicidality and suicidality in the perinatal period, especially when developing screening or assessment measures to identify cases in this population. Lastly, only papers written in English were included which may have resulted in studies that validated measures of perinatal suicidality in other countries and/or languages being overlooked.

3.5.2 Conclusions

Further research is needed to validate measures of suicidality in perinatal populations, and particularly during the antenatal period. It is imperative that effective, appropriate, and acceptable measures of suicidality are available in research and clinical settings to identify at-risk women in early pregnancy, and across the entire perinatal period. This will help to reduce perinatal suicidality and improve outcomes for women, their infants, and families. Whilst both the PDSS, SUI and EPDS item-10 have shown some promise for identifying suicidal ideation and/or self-harm thoughts, utility in their current form is limited to the context of depression screening. Future research should continue to validate the measures identified in this review and validate alternative measures of suicidality that are currently used in the general population, in both antenatal and postnatal samples. The development and validation of brief, feasible and effective measures of suicidality that are specific to perinatal women are warranted.

4 Acceptability and content validity of suicidality screening items: A qualitative study with perinatal women (Article 2)

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4.1 Abstract

Background: Suicide is a leading cause of death for perinatal women. It is estimated that up to 50% of women with mental health issues during pregnancy and/or after birth are not identified, despite regular contact with healthcare services. Screening items are one way in which perinatal women needing support could be identified. However, research examining the content validity and acceptability of suicide-related screening items with perinatal women is limited.

Aims: This study sought to: (i) assess the acceptability and content validity of 16 suicide-related items that have been administered and/or validated in perinatal populations; and (ii) explore the potential barriers and facilitators that may affect how women respond to these items when administered during pregnancy and after birth.

Method: Twenty-one cognitive and semi-structured interviews were conducted with pregnant and postnatal women in the UK. The sample included women who had experienced self-reported mental health problems and/or suicidality during the perinatal period, and those who had not. Interviews were transcribed verbatim, and a coding framework based on the Theoretical Framework of Acceptability was applied to explore the data using deductive and inductive approaches.

Results: Findings indicated that the acceptability and content validity of suicide-related items were largely unacceptable to perinatal women in their current form. Women found terms such as “better off dead” or “killing myself” uncomfortable. Most women preferred the phrase “ending your life” as this felt less confronting. Comprehensibility was also problematic. Many women did not interpret ‘harming myself’ to include suicidality, nor did they feel that

abstract language such as “leave this world” was direct enough in relation to suicide. Stigma, fear, and shame was central to non-disclosure. Response options and recall periods further affected the content validity of items, which created additional barriers for identifying those needing support.

Conclusions: Existing suicide-related screening items may not be acceptable to perinatal women. Maternity practitioners and researchers should consider the phrasing, clarity, context, and framing of screening items when discussing suicidality with perinatal women to ensure potential barriers are not being reinforced. The development of specific suicidality screening measures that are acceptable, appropriate, and relevant to perinatal women are warranted.

Keywords: Suicide; Perinatal; Pregnancy; Postpartum; Screening; Acceptability; Qualitative; Content Analysis

4.2 Introduction

Maternal suicide is a devastating global issue, accounting for up to one fifth of deaths during the perinatal period in high-income countries (HICs) (Grigoriadis et al., 2017; Howard & Khalifeh, 2020; Policy Centre for Maternal Mental Health, 2023; Trost et al., 2022) and contributing to pregnancy-related mortality in lower- and middle-income countries (LMICs) (Fuhr et al., 2014). In the UK, suicide is the leading direct cause of death for women between six-weeks and one-year post pregnancy, a figure that has tragically remained largely unchanged for over a decade (Knight et al., 2016, 2023). Furthermore, the incidence of maternal death due to mental health related causes has increased over the past few years, now accounting for almost 40% of all deaths during the perinatal period, with many women having experienced multiple adversities (Knight et al., 2022, 2023). Evidence also indicates that approximately half of women suffering from mental health problems and/or those at risk of suicide during the perinatal period are not identified, despite regular contact with maternity services (Bauer et al., 2014; National Childbirth Trust [NCT], 2017). It is therefore imperative that multi-sector approaches for understanding and addressing the potential risk factors and barriers that might prevent perinatal women from disclosing suicidal thoughts and/or behaviours are established. Such efforts may help to lessen the occurrence of preventable maternal deaths and improve outcomes for both women and their babies.

Pregnant women and new mothers are now recognised as a high-risk priority group in the UK cross-government suicide prevention plan for England (GOV UK, 2023). This strategy aims to reduce suicide rates through targeted and tailored interventions over the next five-years. The most recent report highlighted the importance of screening for mental health problems during pregnancy and after birth and suggested that care providers take an active role in exploring the risk factors for suicide at every perinatal contact. However, universal screening for common perinatal mental health problems is not currently recommended in the

UK (Solutions for Public Health, 2019), despite evidence that this approach can lead to both a reduction in perinatal depression and anxiety symptoms (Waqas et al., 2022) and is associated with increased referral rates and engagement with the appropriate services (Reilly et al., 2020). Instead, the National Institute for Health and Care Excellence (NICE) (2014) suggests that midwives ask about women's mental health and wellbeing at their first antenatal booking appointment and at all subsequent contacts throughout the perinatal period using the Whooley questions (Whooley et al.,1997) and/or the Generalized Anxiety Disorder Scale-2 (GAD-2) (Kroenke et al., 2007; Spitzer et al., 2006). If a woman positively endorses either of these measures, a further assessment using psychometric self-report measures such as the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al.,1987) or Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001) can be conducted.

However, suicidal ideation and/or self-harm ideation is not routinely discussed with women receiving maternity care unless there is pretext for it, e.g., a prior history of suicidal and/or harming behaviours, if the woman is already receiving specialist care, or has self-disclosed. To date, no self-report screening measures of suicidality have been specifically designed for use with pregnant and postnatal women. When there is concern for a woman's mental health, the presence or absence of suicidal and/or self-harm ideation is often identified in the context of screening for depression and/or other common mental health problems because: (i) suicidality and depression are frequently comorbid (Howard & Khalifeh, 2020; Orsolini et al., 2016); (ii) depression is a risk factor for suicide (Orsolini et al., 2020); (iii) many depression measures include an item that asks about suicidal and/or self-harming ideation (Dudeney et al., 2023); and (iv) screening measures are relatively quick to administer and complete. However, although depression screening has become a proxy for identifying possible suicidality in perinatal women, it is important that the broader implications of this approach are not overlooked. Whilst depression and suicidal ideation

and/or suicide behaviours do overlap, suicidality can occur without the presence of depression (and vice versa), thus screening for perinatal suicidality using depression measures alone may result in cases being missed (Arditi-Arbel et al., 2023; Garman et al., 2019a; Onah et al., 2017). Furthermore, suicide is a multifaceted phenomenon, characterised by a highly complex interplay of biology, psychology, environment, and culture (O'Connor, 2011). Hence, using a single item to capture the presence or absence of suicidal ideation and/or suicidal behaviours has clear limitations. Approaches for identifying suicidality need to consider numerous psychosocial factors as part of a comprehensive assessment, and distinguish between suicidal ideation (which can include both passive thoughts about a desire to die, and/or active thoughts about ending your own life by suicide), suicide plans, and suicide behaviours because these are distinct processes, with differing implications in terms of mitigating risk and developing individual care plans (Royal College of Psychiatrists, 2020). NICE (2022a) do not recommend that risk assessment tools are used to predict future suicide, nor should they be used to determine who is offered treatment or not.

Psychometric validity and reliability of tools for identifying mental health problems in pregnancy and after birth needs to be rigorously tested in diverse settings and contexts (Sambrook Smith et al., 2022). However, a recent systematic review (Dudeney et al., 2023) indicated that the validity and reliability of measures that have been used to identify suicidality in perinatal women is limited, and nearly all were either items or subscales on a measure for depression. Research should continue to evaluate the psychometric properties of suicidality measures in perinatal populations to ascertain the suitability of their use. It is equally important to explore the content validity and acceptability of screening measures to perinatal women because this may affect their appropriateness and uptake. Content validity is generally assessed by looking at how well a measure captures the construct(s) it is meant to represent, particularly in terms of its relevance, comprehensiveness, and comprehensibility to

the target population (Terwee et al., 2018). However, approaches for defining and assessing acceptability are more varied. Whilst it is now widely recognised that acceptability should be a key consideration in the development, evaluation, and implementation of healthcare interventions, there has been a lack of agreement or guidance regarding how it should be measured, and the use of existing theory is often overlooked (Sekhon et al., 2017). These inconsistencies can inhibit the comparison of acceptability across intervention types and settings, and limit evidence-based policy and or practice recommendations.

Research has examined the acceptability of perinatal mental health interventions and/or screening using various methods, including: (i) semi-structured interviews/focus groups to explore experiences, attitudes and/or perceptions (Diebold et al., 2020); (ii) cognitive interviews to measure comfort, ease, recall, and confidence in answering depression case-finding questions (Littlewood et al., 2018); (iii) self-report surveys/questions to measure usefulness, comfort etc (Austin et al., 2013); and, (iv) uptake as an indicator of acceptability (H. Chen et al., 2011). Perinatal mental health assessment and commonly used measures appear to be acceptable to pregnant and postnatal women given certain conditions (Brealey et al., 2010; El-Den et al 2015; Kingston et al., 2015a). For example, care providers need to explain the purpose, outcome, and follow-up procedures of mental health screening to perinatal women because this can influence their willingness to engage (Hsieh et al., 2021). Likewise, factors such as the mode of administration, individual comfort levels, relationship with healthcare professionals, and stigma, guilt, shame, and fear associated with perinatal mental health problems can affect acceptability and prevent women from answering screening measures honestly, which creates additional barriers for identifying those who might require support (Austin et al., 2022; Bayrampour et al., 2017; Forder et al., 2020; Kingston et al., 2015a, 2015b, 2015c; McLoughlin, 2013).

Considering these barriers, it is unsurprising that identifying suicidality in perinatal women poses an even greater challenge. This is further exacerbated by the complex risk factors associated with suicidal ideation and behaviours (Bright et al., 2022; Reid et al., 2022a) and mitigating women's fears regarding the potential consequences of disclosing suicidality e.g., unwanted intervention, hospitalisation, and/or concerns that their child will be taken away. Whilst there are a few studies that have explored and theorised women's experiences of suicidality during the perinatal period (Biggs et al., 2023; Praetorius et al., 2020; Reid et al., 2022b; Tabb et al., 2013), there is little literature that has specifically examined how pregnant and postnatal women feel about suicide-related items that are embedded into mental health screening measures or how acceptable these items are to them. Some studies have found that perinatal women from LMICs are hesitant to answer item-9 from the PHQ-9 ("Thoughts that you would be better off dead or of hurting yourself in some way") due to religious beliefs (Velloza et al., 2020) and/or because they find it uncomfortable (Fellmeth et al., 2023), and other research has highlighted that there may be ambiguity regarding item-10 from the EPDS ("The thought of harming myself has occurred to me") because this may not be interpreted to include suicidal ideation (Brealey et al., 2010; Qui et al., 2023). Furthermore, there is no universal consensus regarding the operational definition of suicidal ideation, which may create confusion in terms of identifying passive or active intent (Berman & Silverman, 2017), and variations in language use/the phrasing of items may also play a significant role in perpetuating or reducing stigma and fear, and/or addressing cultural differences.

Therefore, given that the acceptability of suicide-related screening items is understudied in perinatal populations, and that research using an existing theory of acceptability to explore perinatal mental health screening measures is limited, it is important to adopt an established and structured approach to conducting research in this area to ensure

methodological rigour. This will help to generate new knowledge and contribute to the systematic enquiry of acceptability in the perinatal mental health and suicide literature. The Theoretical Framework of Acceptability (TFA) (Sekhon et al., 2017) offers a systematic and evidence-based approach for evaluating the acceptability of healthcare interventions, from both the perspective of those receiving and/or those delivering the intervention. The TFA defines acceptability as a multifaceted construct, comprising of seven domains (affective attitude, burden, ethicality, intervention coherence, opportunity costs, perceived effectiveness, and self-efficacy, see Table 4.1 for construct definitions) that can be applied at different timepoints (before, during or after an intervention) to assess the prospective, concurrent, or retrospective acceptability of an intervention. Perinatal research has used the TFA to assess acceptability in a variety of healthcare contexts (e.g., Charron et al., 2023; Pavlova et al., 2020; Sekhon & van der Straten, 2021; Strowel et al., 2023; Toomey et al., 2020), including the use of exposure therapy among pregnant women with elevated anxiety (Ponting et al., 2023), and a systematic review on the acceptability of implementing patient reported measures in routine maternity care (A. Chen et al., 2023). However, the authors know of no research that has used the TFA to assess the acceptability of suicide-related screening items to perinatal women. Using the TFA should provide valuable insights regarding the content validity of these items for identifying suicidal ideation and/or suicidal behaviours in perinatal women and it might also highlight some of the barriers and facilitators that influence how women respond to them.

Hence, the aims of this study were to: (i) assess the acceptability and content validity of 16 different suicide-related items that have been administered and/or validated in perinatal populations using the TFA; and (ii) explore the potential barriers and facilitators that may affect how women respond to these items when they are administered during pregnancy and after birth. These items were specifically selected from self-report measures for depression

and/or common mental health problems because they have previously been used in perinatal populations as either a single item or as a subscale to identify suicidal ideation and/or behaviours (Dudeney et al., 2023). It is therefore important to assess how acceptable their use is to perinatal women, for both clinical and research purposes.

Table 4.1 Constructs of the adapted Theoretical Framework of Acceptability (TFA)

TFA construct	Definition Sekhon et al. (2017)	Definition as applied to this study
Affective attitude	How an individual feels about the intervention	How an individual feels about the item (e.g., do they feel comfortable with the item, do they like the phrasing of the item, is the item distressing in any way)
Burden[1]	The perceived amount of effort that is required to participate in the intervention	The amount of (cognitive) effort required to understand the item and how it works (e.g., is the item clear or confusing in any way, do they find the item too difficult to answer, is it a good fit for asking about suicidality)
Intervention coherence[1]	The extent to which the participant understands the intervention and how it works	
Opportunity costs[2]	The extent to which benefits, profits or values must be given up by engaging in the intervention	How confident a participant is that they could answer this item (and/or answer it honestly) in light of their own value systems, motivation, and the potential costs/benefits of their response (e.g., is there anything that would prevent them from answering this item)
Self-efficacy[2]	The participant's confidence that they can perform the behaviour(s) required to participate in the intervention	
Ethicality[2]	The extent to which the intervention has a good fit with an individual's value system	
Perceived effectiveness	The extent to which the intervention is perceived as likely to achieve its purpose	The extent to which the item is perceived as likely to serve its purpose (e.g., do they think this item is useful or effective for identifying suicidality in perinatal women)

Notes: Superscript numbers ([1, 2]) indicate that theses TFA constructs were clustered in this research.

4.3 Materials and methods

4.3.1 Design and participants

This was a qualitative study using cognitive interviewing and semi-structured interviews to examine the acceptability and content validity of existing suicide-related screening items to perinatal women. All interviews took place online (e.g., Microsoft Teams or Zoom) or via the telephone, depending upon the participants preference.

The sample size for this study was guided by the Information Power approach (Malterud et al., 2016). This approach suggests that five key areas should be considered when establishing a sample size estimation: (i) study aim(s); (ii) sample specificity; (iii) use of established theory; (iv) quality of dialogue; and (v) analysis strategy. It was anticipated that approximately 20 women would be suitable to meet the sample size requirements above. The final sample consisted of 21 participants.

Participants were pregnant and postnatal women (up to two-years postnatal), aged 18 or over, living in the United Kingdom, who were able to speak and understand English. The sample included both women who had experienced mental health problems and/or suicidality during the perinatal period in the past, and those who had not. Women who were experiencing current (self-reported) suicidality were not eligible to take part.

4.3.2 Ethics

Research ethics approval for this study was obtained from the School of Health and Psychological Sciences Research and Ethics Committee (SHPS REC) at City, University of London before any recruitment or data collection took place (reference number: ETH2122-0757). Informed consent was obtained from all participants prior to their interview.

4.3.3 Recruitment and data collection

Of the 21 participants, most (n = 16) were recruited via social media (e.g., Twitter/X), and five were recruited via word of mouth. After making initial contact with the lead researcher (Elizabeth Dudeney), eligible participants were sent an information pack which included a consent form, participant information sheet, and resource list to enable an informed decision about participation in the study. Once a participant had provided their informed consent, a convenient time was scheduled for them to take part in a one-to-one interview with Elizabeth Dudeney, who was experienced in conducting qualitative interviews on sensitive topics and in identifying and signposting suicide risk.

A topic guide was developed by Elizabeth Dudeney and Rose Coates, which comprised two parts see Appendix F. The first part of the interview used cognitive interviewing techniques to examine the acceptability and content validity of 16 suicide-related items taken from seven different depression and/or mental health screening measures, which have previously been administered and/or validated in perinatal populations (Dudeney et al., 2023). Participants were asked to sequentially read out each item (and its corresponding response options) and to "think aloud" when verbalising their thoughts on the item to the researcher. Participants were not asked to answer the screening items directly, as our interest was in their thoughts about the application of these items in the "real world" context, not in their responses to them per se. The researcher also used relevant probes to further explore the TFA constructs (as outlined in Table 4.1). The second part of the interview was a semi-structured interview about the broader implications of suicidality screening during the perinatal period. Detailed findings from this part of the interview are reported elsewhere.

Interviews lasted approximately 90 minutes, were audio-recorded, and transcribed verbatim and deidentified. Participants were reminded throughout the study that their

participation was entirely voluntary and that they could withdraw from the study at any stage, up until the point of data analysis, without needing to provide a reason. All participants completed their interviews in full, with no obvious or reported adverse effects.

4.3.4 Measures

The 16 suicide-related items were taken from seven different screening measures of psychological distress, depression, and anxiety. Items were chosen because they have previously been administered and/or validated in perinatal populations to identify suicidal ideation and/or suicidal behaviours (Dudeney et al., 2023). A descriptive summary of the included measures/items is presented in Table 4.2. Six items were from the Inventory of Depression and Anxiety Symptoms (IDAS) (Watson et al., 2007) suicidality subscale. Five items were from the Postpartum Depression Screening Scale (PDSS) (Beck & Gable, 2000) suicidal thoughts scale. One item each was taken from: the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987); the Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001); the Self-Reporting Questionnaire-20 (SRQ-20) (Harding et al., 1980); the Beck Depression Inventory (BDI) (Beck et al., 1961); and the Ultra-Short Maternal Mental Health Screen (Ultra-Short) (van Heyningen et al., 2019).

Table 4.2 Descriptive summary of measures

Measure, item	Description of measure	Item content	Response options [scoring]	Recall period
Beck Depression Inventory (BDI), item-9*	21-item scale to screen for depression symptoms and severity	"I don't have any thoughts of killing myself", "I have thoughts of killing myself, but I would not carry them out", "I would like to kill myself", "I would kill myself if I had the chance"	Choose one of the statement options [0 to 3]	Past seven-days
Edinburgh Postnatal Depression Scale (EPDS), item-10*	10-item scale to screen for postnatal depression symptoms and severity	"The thought of harming myself has occurred to me"	"Never" [0], "Hardly ever" [1], "Sometimes" [2], "Yes, quite often" [3]	Past seven-days
Inventory of Depression and Anxiety Symptoms (IDAS), item-7*	64-item scale to screen for depression and anxiety symptoms	"I had thoughts of suicide"	"Not at all" [1], "a little bit" [2], "moderately" [3], "quite a bit" [4], "extremely" [5]	Past two-weeks
Inventory of Depression and Anxiety Symptoms (IDAS), item-9*	64-item scale to screen for depression and anxiety symptoms	"I hurt myself purposely"	"Not at all" [1], "a little bit" [2], "moderately" [3], "quite a bit" [4], "extremely" [5]	Past two-weeks
Inventory of Depression and Anxiety Symptoms (IDAS), item-14*	64-item scale to screen for depression and anxiety symptoms	"I thought about my own death"	"Not at all" [1], "a little bit" [2], "moderately" [3], "quite a bit" [4], "extremely" [5]	Past two-weeks
Inventory of Depression and Anxiety Symptoms (IDAS), item-15*	64-item scale to screen for depression and anxiety symptoms	"I thought about hurting myself"	"Not at all" [1], "a little bit" [2], "moderately" [3], "quite a bit" [4], "extremely" [5]	Past two-weeks
Inventory of Depression and Anxiety Symptoms (IDAS), item-41*	64-item scale to screen for depression and anxiety symptoms	"I cut or burned myself on purpose"	"Not at all" [1], "a little bit" [2], "moderately" [3], "quite a bit" [4], "extremely" [5]	Past two-weeks
Inventory of Depression and Anxiety Symptoms (IDAS), item-43*	64-item scale to screen for depression and anxiety symptoms	"I thought that the world would be better off without me"	"Not at all" [1], "a little bit" [2], "moderately" [3], "quite a bit" [4], "extremely" [5]	Past two-weeks
Patient Health Questionnaire-9 (PHQ-9), item-9*	9-item scale to screen for depression symptom prevalence and severity	"Have you had thoughts that you would be better off dead, or of hurting yourself in some way?"	"Not at all" [0], "several days" [1], "more than half the days" [2], "nearly every day" [3]	Past two-weeks
Postpartum Depression Screening Scale (PDSS), item-7*	35-item scale to screen for postnatal depression symptoms	"I started thinking that I would be better off dead"	"Strongly disagree" [1], "disagree" [2], "neither disagree nor agree" [3], "agree" [4], "strongly agree" [5]	Past two-weeks

Postpartum Depression Screening Scale (PDSS), item-14*	35-item scale to screen for postnatal depression symptoms	"I've thought that death seemed like the only way out of this living nightmare"	"Strongly disagree" [1], "disagree" [2], "neither disagree nor agree" [3], "agree" [4], "strongly agree" [5]	Past two-weeks
Postpartum Depression Screening Scale (PDSS), item-21*	35-item scale to screen for postnatal depression symptoms	"I wanted to hurt myself"	"Strongly disagree" [1], "disagree" [2], "neither disagree nor agree" [3], "agree" [4], "strongly agree" [5]	Past two-weeks
Postpartum Depression Screening Scale (PDSS), item-28*	35-item scale to screen for postnatal depression symptoms	"I felt that my baby would be better off without me"	"Strongly disagree" [1], "disagree" [2], "neither disagree nor agree" [3], "agree" [4], "strongly agree" [5]	Past two-weeks
Postpartum Depression Screening Scale (PDSS), item-35*	35-item scale to screen for postnatal depression symptoms	"I just wanted to leave this world"	"Strongly disagree" [1], "disagree" [2], "neither disagree nor agree" [3], "agree" [4], "strongly agree" [5]	Past two-weeks
Self-Reporting Questionnaire-20 (SRQ-20), item-17	20-item scale to screen for mental disorders	"Has the thought of ending your life been on your mind?"	YES/NO [1/0]	Past 30-days
Ultra-short Maternal Mental Health Screen (Ultra-Short), item-4	4-item scale to measure common perinatal mental disorders	"Has the thought of committing suicide often occurred to you?"	YES/NO [1/0]	Past month

Notes: * measure has been validated in perinatal populations.
Measures: Beck Depression Inventory (BDI) (Beck et al., 1961); Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden, & Sagovsky, 1987); Inventory of Depression and Anxiety Symptoms (IDAS) (Watson et al., 2007); Postpartum Depression Screening Scale (PDSS) (Beck & Gable, 2000); Patient Health Questionnaire-9 (PHQ-9) (Kroenke, Spitzer, & Williams, 2001); Self-Reporting Questionnaire-20 (SRQ-20) (Harding et al., 1980); Ultra-Short Maternal Mental Health Screen (Ultra-Short) (van Heyningen et al., 2019).

4.3.5 Data analysis

The deidentified transcripts were uploaded to NVivo 14 (Lumivero, 2023) for analysis. Using principles of the framework approach (Gale et al., 2013; Ritchie & Spencer, 1994), data were initially analysed using deductive content analysis, which is suitable for interpreting qualitative data in line with an existing framework or theory.

4.3.5.1 Theoretical Framework of Acceptability

Following a familiarisation of the interview transcripts, Elizabeth Dudeney and Rose Coates developed a coding framework based on the TFA constructs to inform the analysis. Sekhon et al., (2017) suggest that the seven constructs may cluster or influence each other. Based on the initial coding, the decision was made to cluster the constructs of "burden and intervention coherence" into one unique domain, and "opportunity costs, self-efficacy, and ethicality" into another. Here, the construct of "burden" was interpreted to be less associated with how much time or expense was required to answer each individual suicide-related item (as these were relatively short) and more related to the amount of cognitive burden (e.g., effort) that was required to understand the item and how it worked ('intervention coherence'). The constructs of "opportunity costs, self-efficacy, and ethicality" were clustered because together they related to how confident a participant might feel answering the item (and/or answering it honestly) in light of their individual value systems and the potential costs or benefits that may be associated with their response. "Affective attitude" and "perceived effectiveness" remained as single constructs. By conceptualising the constructs in this way, the researchers were able to assess the concurrent acceptability (e.g., as experienced in real time) and the prospective acceptability (e.g., if applied in the real world) of each suicide-related item in relation to the research aims. Definitions of the TFA constructs as applied to this study are

presented in Table 4.1. In addition, the categories of “response options” and “recall period” were also included in the coding framework as relevant aspects of content validity.

The indexing procedure for each transcript involved: (i) selecting the data associated with the first suicide-related item (e.g., EPDS, item-10) and coding it under a corresponding heading (e.g., EPDS, item-10); (ii) coding all occurrences related to each of the framework categories for the item under the corresponding heading (e.g., “affective attitude”, “perceived effectiveness” etc.); and (iii) applying positive (+), negative (-) and/or neutral/indifferent (+/-) codes to the data within each category. This process was repeated for all 16 suicide-related items across each transcript, and the data were then extracted into a matrix format using an Excel spreadsheet. This enabled the researchers to examine the number of positive, negative, and neutral/indifferent coding instances per item across all constructs and participants. Lastly, inductive coding was also applied to the qualitative data within each of the positive, negative, and neutral/indifferent categories to explore and generate themes within each of the domains.

The entire dataset was initially coded by Elizabeth Dudeney and Rose Coates, with a PhD student independently coding 20% of the transcripts (adhering to the procedure above). Any areas of contention were discussed, and all minor coding discrepancies were revised as needed to ensure the trustworthiness of the analysis. Elizabeth Dudeney and Rose Coates met regularly throughout the analytic process to discuss and review the coding as it progressed, and all coauthors agreed on the finalised main themes without disagreement. Reporting follows the guidelines set by the Consolidated Criteria for Reporting Qualitative research (Tong et al., 2007).

4.4 Results

4.4.1 Sample characteristics

Twenty-one perinatal women took part in this study. Three were pregnant at the time of their interview and 19 had a child under the age of two. One participant was both pregnant and had a child under the age of two. For 14 women, this was either their only child or first pregnancy. Most women were in their 30s (range 29 – 42 years, mean age 33.9). Twenty women spoke English as their first language and the cultural background of participants was predominantly White British. Nineteen women held a bachelor's degree or higher qualification. Participant demographics are presented in Table 4.3.

Seventeen women self-reported that they had experienced mental health problems (including anxiety and depression) and/or suicidal thoughts during their current or most recent pregnancy and/or after the birth of their baby. Of these 17 women, five had not experienced any mental health problems and/or suicidal thoughts prior to their pregnancy. Thirteen women reported that they had experienced mental health problems and/or suicidal thoughts prior to their most recent pregnancy. Of these 13, 12 women also experienced poor mental health during the perinatal period, and only one participant did not. Over two-thirds of the women reported that they had received treatment and/or support for their mental health problems, but it is unclear when this was accessed (e.g., it could have been at a time prior to pregnancy and/or during the perinatal period).

Table 4.3 Sample characteristics (n = 21)

Sociodemographic variable	*M (range)* or *n* (%)
Age	33.9 (29 – 42 years)
Perinatal phase (at time of interview)	
Pregnancy	2 (9%)
Postnatal (≤ 24-months)	18 (86%)
Pregnant and postnatal*	1 (5%)
Number of additional children	
0	14 (67%)
1	4 (19%)
2	3 (14%)
Mental health problems and/or suicidal thoughts during most recent pregnancy and/or after birth	
Yes	17 (81%)
No	4 (19%)
Mental health problems and/or suicidal thoughts at any other time in life	
Yes	13 (62%)
No	8 (38%)
Treatment and/or intervention for mental health problems at any time in life (including perinatal period)	
Yes	15 (72%)
No	3 (14%)
Not applicable	3 (14%)
English as first language	
Yes	20 (95%)
No	1 (5%)
Education	
Secondary school (e.g., GCSE, SVQ level 1)	1 (5%)
Post-secondary (e.g., A-level, National Diploma	1 (5%)
Bachelor's degree, or equivalent	8 (38%)
Master's degree, or equivalent	7 (33%)
Doctorate	4 (19%)
Cultural background	
(White) English/Welsh/Scottish/Northern Irish/British	16 (77%)
(White) Irish	2 (9%)
Any other White background	2 (9%)
(Mixed/multiple ethnic groups) White and Asian	1 (5%)

Notes: *One participant was pregnant at the time of interview and had a child under two years old.

4.4.2 Main findings

In the following sections, key themes related to each of the TFA constructs are discussed under the corresponding heading. Findings are presented using quantitative data from cognitive interviews, and qualitative data from semi-structured interviews. The participants thoughts regarding the response options and recall periods for the suicide-related items are also reported.

The number of positive, negative, and neutral/indifferent codes that were identified for each item using the TFA constructs as applied in this study are presented in Table 4.4. Table 4.5 displays the number of positive, negative, and neutral/indifferent codes that were identified in relation to the response options and recall periods for each item or subscale. Both tables also present illustrative quotes per item, response option and recall period.

Table 4.4 Number of positive, negative, and neutral/indifferent TFA construct coding instances for the suicide-related items, with illustrative participant quotes

	TFA construct			
Measure	Affective Attitude	Burden & intervention coherence	Opportunity costs, self-efficacy & ethicality	Perceived effectiveness
BDI, item-9*	(+) = 6 *"It's quite interesting to have the second choice because I don't think that's sort of been mentioned, like they've said 'suicidal thoughts' but there has not been the kind of 'but I wouldn't actually do it' which some people might feel more comfortable saying, like 'I don't want to say I've had suicidal thoughts without saying that I wouldn't actually do it" (p1)* **(-) = 29** *"It's very strong language, it even like made me triggered a bit even though I don't have these thoughts because, it's very, very strong for me, I would definitely be taken aback to answer this, like I found it scary as a typology of questions, 'kill myself' is very aggressive and it sounds very twisted, yeah, to put it bluntly, I really didn't like this question" (p2)* (+/-) = 0 *N/A*	(+) = 5 *"This seems quite straight forward really, it kind of distinguishes between not having any suicidality, to having thoughts but not a plan, to having a plan, to being actively suicidal, yeah, this seems the most clear so far actually, yeah kind of seems to distinguish and solve a lot of the discussions we've had before" (p5)* **(-) = 12** *"When you have people who struggle reading questions, perhaps their English isn't to a stage they can pick up that much information, that is a lot to read first of all, that's a lot to take on board, and then, not only do you have to read each of the things, you've then got to read it several times before you can answer like 'which category do I fall into', I think if you're not uneducated, or if you had a woman who struggled with English at school, or if you had someone with English as a foreign language, those more vulnerable people, I think they would struggle to answer it, 'cos I've had to read it several times to then think about which one I would tick off" (p16)* (+/-) = 0 *N/A*	(+) = 0 *N/A* **(-) = 9** *"This is less sort of like 'inviting' to open a conversation, like the question before helps you to open up [SQR-20] where you might talk a bit more about it, whereas as this one just feels like you wouldn't necessarily, I'm thinking about if I had [had suicidal thoughts], whether I'd ever tick 'I have had thoughts but I would not carry them out' because then I would feel like it could ring alarm bells, I'd probably just tick 'no' 'cos you'd just worry about the consequences too much" (p7)* (+/-) = 0 *N/A*	**(+) = 5** *"I think it's a useful one 'cos you're really able to differentiate when you get that detail 'who are the people with thoughts, who are the people who are thinking about it, and who are the people who are really on the edge', in one question, you really get that, 'cos you're putting them all next to each other and they've got to make a choice where are they on that spectrum, so yeah, I think that's quite a good one" (p6)* (-) = 2 *"It seems very out of place this question, compared to all the others, like much less subtle and much less tactful, yikes, I think that there's much better ways [to ask] and we've seen some of them, yeah, I just wouldn't ask this question in this way, it's just gonna scare people I think, or upset people, and I feel like you're going to put people off" (p13)* (+/-) = 0 *N/A*
EPDS, item-10*	**(+) = 20** *"It's a pretty valid question, I don't feel like I'm off put by anything about it" (p04)* (-) = 6	(+) = 8 *"I feel like this is a fairly self-explanatory question, I think- if I was reading it, I would understand what it was getting at" (p21)* **(-) = 15**	(+) = 2 *"I feel like it's easier to admit that it's 'occurred to you" (p11)* **(-) = 9** *"I think that for me, the biggest barrier would be thinking 'does this mean that social*	(+) = 2 *"I think the term 'harming myself' is very general so I would interpret the question as that they're asking about self-harm, which at the very extreme end might be suicide" (p18)* **(-) = 12**

	"[It's] an emotive question which might make it harder to come to the reality of 'oh yes, actually I have thought about harming myself" (p06) (+/-) = 0 *N/A*	*"For women who don't have that specific knowledge, this would be a bit of a tricky question, because what is 'harming yourself [?]" (p05)* (+/-) = 1 *"I understand what it's asking me, it just feels a bit convoluted" (p12)*	*services are gonna get involved' and that would terrify me" (p10)* (+/-) = 1 *"That really depends on the context, I think it depends on who's asking it, and it depends what situation they're in" (p21)*	*"I would definitely say that I would not equate that question to suicide or suicidal thoughts, that wouldn't come into my mind" (p10)* (+/-) = 0 *N/A*
IDAS, item-7*	**(+) = 15** *"I think for me personally, I prefer to read a question where it's saying 'suicide' as opposed to 'death' or 'dead', I think because suicide maybe in a way hides the actual outcome of what it means" (p9)* (-) = 12 *"It's just quite a difficult word isn't it [suicide], and it's not a word we use lots in kind of general language… I think if I was on the receiving end of the question and I was feeling really vulnerable, I would probably prefer something like 'have you had thoughts of ending your life' rather than 'suicide" (p7)* (+/-) = 0 N/A	**(+) = 13** *"I like the clarity of that, I think it is really clear, you know exactly what you're answering, and it's not emotive in any way, and everyone knows what suicide means" (p17)* (-) = 3 *"Well, the first thing that annoys me is that it's not good English, like it's not proper grammar, but I say that kind of in a trite way, you know, I can deal with bad grammar, but it actually means that the question isn't easy to answer, so I think that's an issue" (p18)* (+/-) = 0 *N/A*	(+) = 3 *"I don't have that kind of fear or shame around it, so for me, it's fine [the question]" (p12)* **(-) = 6** *"It's the intent and shame I think, you know it's quite shameful and it used to be a crime right if you committed suicide, and I think especially when it's religion backed, there's a lot of issues there with the concept of suicide… so there is a lot of stigma attached, like I would feel uncomfortable if I were suicidal and for somebody to say that to me because of everything that's associated with that" (p13)* (+/-) = 0 *N/A*	**(+) = 11** *"I prefer that question in some ways, and it's direct, it definitely answers the criteria you're looking for you know, suicide directly, yeah" (p6)* (-) = 0 *N/A* (+/-) = 0 *N/A*
IDAS, item-9*	(+) = 8 *"It seems like a good question because it's very accepting with that word 'purposely', it actually seems to resolve some of the issues I raised about the previous one, about self-harm and intent" (p5)* **(-) = 10** *"I don't think there's any care in that question either… I feel like it's almost like a tick-box exercise, like they need to figure out whether I do feel like that, and then if I tick such and such then-yeah, there's no care about that, I think sometimes when you're pregnant, you need a bit of love don't you [?]" (p16)*	(+) = 8 *"It does make sense and it's very clear to me what you're asking me, you know 'have you actually done it, are you doing it' rather than 'have you had feelings of doing it', it's 'I've actually done it', it's relatively easy" (p17)* **(-) = 16** *"The only thing that I would say that is, somebody might not be hurting themselves on purpose right at this time, but they could have in the past, which means they are then at risk of sort of doing it again, so 'I have or I do hurt myself' I think would probably be better, because like today I would answer that as 'not at all', but I have*	(+) = 1 *"I actually think that it doesn't have any sort of judgement or negative connotations" (p2)* **(-) = 3** *"I think that someone would be really ashamed to say, 'I hurt myself purposely' I mean, I certainly wouldn't want to admit it, it's a horrible thing to say isn't it 'I hurt myself purposely', it's horrible, yeah, it's awful, it's really sad" (p15)* (+/-) = 0 *N/A*	(+) = 0 *N/A* **(-) = 8** *"It can capture a lot of behaviours, but it doesn't tell you about suicide I don't think, and it wouldn't be necessarily that helpful understanding whether someone feels suicidal" (p21)* (+/-) = 0 *N/A*

	(+/-) = 1 *"There might be a difference between doing something relatively minor versus something that could lead to a potentially life-threatening injury, so you'll probably dig a bit under the surface with these, but you won't get everything you wanted" (p10)*	*previously, so therefore it's on my mind that perhaps I might one day do that again" (p14)* (+/-) = 0 *N/A*		
IDAS, item-14*	(+) = 6 *"It's almost a little bit more abstract, so it makes you feel like a lot more comfortable taking about it and opening up" (p2)* **(-) = 8** *"I don't think this question is very helpful because it means so many different things to different people, it's really difficult to answer that one, when I first saw 'death' I thought, 'oh my gosh, that's really harsh', it's a hard word to say, isn't it" (p15)* (+/-) = 1 *"It doesn't feel like they're [this subscale] trying to like dress it up with any different language, it's just factual" (p10)*	(+) = 2 *"I mean, again, that question's clear and easy to answer" (p18)* **(-) = 18** *"It's quite passive, so not 'I thought about killing myself' but just 'thought about my own death', so is that in the sense of how it would happen, or how would I do it [?], or more along the lines of how will I die as in 'will I get old, will I get hit by a car, will I get cancer [?]', so I don't know, I don't feel like it's specific enough because sometimes I do [think about death] and it makes me worried, but it's not because I'm suicidal, it's the opposite of that, like I don't want to die, and I think about it and it scares me, so it's definitely not specific enough" (p13)* (+/-) = 0 *N/A*	(+) = 0 *N/A* (-) = 0 *N/A* (+/-) = 0 *N/A*	(+) = 1 *"I think it still gets to the point, and I think it's still relevant" (p12)* **(-) = 17** *"That one's pretty vague for me, I wouldn't necessarily correlate that with suicide, thinking about your own death could be an accident, it could just be worrying about who would look after your kid afterwards, I mean yeah, I've thought about my own death loads and life insurance, that kind of stuff, so that question to me wouldn't necessarily really even have anything to do with mental health, never mind suicide" (p8)* (+/-) = 0 *N/A*
IDAS, item-15*	**(+) = 9** *"That can really help like even opening the conversation and like sliding into the topic without feeling too [judged] yeah, making people feel comfortable, and women feel comfortable because it's less judgement when it's just like a thought, definitely" (p2)* (-) = 2 *"That's maybe a little bit too soft, I can see why that might be a bit easier for some people to answer, I think it's just my preference for being quite blunt,*	(+) = 2 *"I would say that it's very clear, you know, if you have like a collective understanding of what it means to 'hurt' yourself" (p10)* **(-) = 11** *"It's all around that assumption of 'well, what is the question meaning, what is it wanting me to think about here' [?], is this question wanting to gather a bigger picture of all the different ranges of how you hurt yourself, you know, I could hurt myself in several different ways, emotionally*	**(+) = 2** *"I think there are a lot of things that people might consider as 'hurting myself' but wouldn't consider 'self-harm', and yeah, I think with that stigma, if someone read 'I thought about self-harming' they might be thinking, 'if I say that, are they gonna think I'm attention seeking, are they gonna think I'm manipulative', all that kind of stuff, whereas 'hurting myself' feels less stigmatised I think" (p3).* (-) = 0 *N/A* (+/-) = 0	(+) = 0 *N/A* **(-) = 8** *"I think again, I wouldn't link it to suicide necessarily, I would be thinking about self-harm, I think it would be asking about 'have you self-harmed or thought about self-harming', I mean we've spoken about the kind of ambiguity around 'hurting and harming' and how to me, that doesn't mean suicide" (p11)* (+/-) = 0 *N/A*

	that [question] would kinda maybe give me a wee bit of pause on that" (p8) (+/-) = 1 *[Same comment as IDAS, item-14]*	*and physically, it's too broad and again, someone who's probably answering this is still probably not in the right frame of mind, and I think that could cause confusion" (p9)* (+/-) = 0 *N/A*	*N/A*	
IDAS, item-41*	(+) = 3 *"On purpose' is important here obviously because, you know, we burn ourselves all the time" (p13)* **(-) = 21** *"I would rather answer a more general question and then be asked a bit more in person about what that was… also if I read that I might think 'oh well if I haven't cut or burned myself, I haven't really self-harmed, I am not going to be taken seriously' you know, if people are kind of hurting themselves or having thoughts of self-harm, but they're not getting the support that they would like to be receiving or that they feel they need, and then they see a question like this, they might think 'oh, if I cut or burn myself then maybe finally someone will listen to me" (p3)* (+/-) = 1 *[Same comment as IDAS, item-14]*	**(+) = 5** *"I guess this is just a bit more of a specific one, so yeah, it's pretty straightforward" (p20)* (-) = 2 *"I think that's very specific, maybe that could be an example given, like 'I deliberately hurt myself, for example, by cutting or burning', I think that might be clearer, 'cos you know, you might have harmed by another method and then you'd answer 'no" (p11)* (+/-) = 0 *N/A*	(+) = 0 *N/A* **(-) = 6** *"It's just very specific, I think that's actually one of the ones that I view as like a bit maybe too 'on the nose', because I think people might be quite ashamed, like people might be able to tell you like, 'oh I self-harm occasionally' but I think there'd probably be an element of shame around the exact action, that feels very internal, so I think that might spook people a bit" (p21)* (+/-) = 0 *N/A*	(+) = 0 *N/A* **(-) = 8** *"It's not that useful diagnostically for 'are they hurting themselves, are they suicidal' it probably doesn't help in that way, so yeah, I'd probably take that question out, I can't think of any reason to keep it in" (p6)* (+/-) = 0 *N/A*
IDAS, item-43*	(+) = 10 *"So, from my lived experience, that's a great question and I'm glad that it's there and it's worded in a great way 'cos it's not just the 'I don't want to be here' it's also tapping into the 'why', so that's a really good example from my experience of what would have worked" (p5)* **(-) = 11** *"It's the same as some of the other more emotive ones, like putting words in someone's mouth, and if that doesn't resonate with the way they see their*	(+) = 2 *"That's nice and clear to me" (p5)* **(-) = 13** *"I don't find it very clear, the 'world' is far too big to make a call on that, do they mean the people in the world, do they mean environmental issues or [?], I'm not sure what you would get from that question that's useful" (p18)* (+/-) = 0 *N/A*	(+) = 1 *"That [question] would have opened up a dialogue with the professionals, yeah" (p5)* **(-) = 3** *"I do feel that it has a little bit of an issue of putting words into your mouth that you might not actually feel" (p3)* (+/-) = 0 *N/A*	(+) = 4 *"I think that's a really good question to have in there because that is the sort of thing that goes through your head, that's- like your own language- that is the sort of thing that flickers through your head" (p4)* **(-) = 8** *"It could just be leaving- it could be packing up your stuff and going, leaving baby with the dad and going, that's not necessarily related to suicide either, it might just be that you don't think you have enough to offer them in terms of you don't think you're a good enough mum, yeah I don't think that's a*

	suicidal thoughts, you're going to not pick up on it… it should say something about people rather than the 'world', so your loved ones, but yeah, the 'world' is so abstract and odd" (p17) (+/-) = 0 *N/A*			*particularly great question, or clear, I don't think it gives enough clarity for kinda what you're trying to ask about" (p8)* (+/-) = 1 *"Does that tell you about suicide [?], it sort of does, if it was in the right context and being asked sensitively, I could understand that they were asking about suicide" (p21)*
PHQ-9, item-9*	**(+) = 14** *"In terms of the question, it's really good because it encompasses 'better off dead' as well as 'hurting yourself', so instead of just being hurting yourself, which for me, hurting yourself is not killing yourself, or that you'd be better off dead, I think that is a good way of phrasing it" (p15)* (-) = 11 *"I feel like it's better to ask them as two separate questions actually… some people might think 'oh, well I don't think I'm better off dead, but I have thought about hurting myself in some way' and so they might kind of dismiss it or not answer it, so I think it's better to separate them out because they might feel strongly about not answering one of them in that way and that might steer them to give a less accurate answer of how they're feeling" (p6)* (+/-) = 1 *"I guess it depends on what you're trying to get out of the question" (p20)*	**(+) = 8** *"I think that one's a bit clearer in terms of what the question's asking, so it's kind of doing both isn't it, it's the kind of 'self-harming' and 'suicide' potentially, but it includes both… I think I would understand what I was being asked there and be able to answer it accurately" (p11)* **(-) = 8** *"It's a bit confusing, like the fact that the question has got both elements to it… like what are they looking at [?], it's better to split these two out, then it's really clear which one you're responding to… it's just a bit confusing isn't it because what if you had a thought that you'd be better off dead once and then you thought about hurting yourself four times, like how would you answer that question [?], so you're not necessarily gonna get the information that you'd want as a professional out of the answers to this question" (p7)* (+/-) = 0 *N/A*	(+) = 3 *"I would be happy enough to answer that honestly" (p4)* **(-) = 6** *"I definitely appreciate that this not necessarily the case for everyone, but maybe some people wouldn't want to be associated with 'killing' themselves just because they thought of 'hurting' themselves" (p13)* (+/-) = 0 *N/A*	**(+) = 7** *"I think the phrasing of 'thoughts that you'd be better off dead' has that kind of generalness to it, in that its gonna capture the people with the kind of passive suicidal ideation as well as the active, whereas 'I wanted to harm myself', 'I wanted to end my life', you wouldn't capture the people who were having thoughts of 'oh, I just wish I could go to sleep and not wake up', whereas I think that would be captured with this question" (p3)* (-) = 3 *"You're only given one option to answer both questions, so actually, you should split those up, because thinking about it, it doesn't tell you about suicide, it might tell you that someone has thought about hurting themselves, but not about actual suicide" (p21)* (+/-) = 0 *N/A*
PDSS, item-7*	(+) = 14 *"I mean it's pretty to the point isn't it, but I think the question needs to be asked, and I wouldn't feel offended by being asked that" (p11)* **(-) = 20**	**(+) = 8** *"better off dead' is much clearer in what you're asking" (p17)* (-) = 7 *"I guess the only sort of ambiguity there is like the 'I've started thinking', you know, maybe if you've got a history of feeling suicidal, you might not have*	(+) = 1 *"I'd be able to be honest" (p17)* **(-) = 9** *"It's very difficult to answer honestly which is my only thought, it's so tricky as a woman, especially as a pregnant woman where you're constantly judged from midwives, to be honest in answering this type of question*	**(+) = 8** *"This one would have really rung true for me at certain points, you know, 'thinking' that was definitely a thought I was having, so that sort of taps into it" (p5)* (-) = 2 *"Because it is that everyday language, it feels more like when you might have a*

	"I'd feel a bit uncomfortable about the word 'dead', the word 'dead' just feels really like direct, final, extreme" (p7) (+/-) = 1 *"I just would not know how someone in that situation wants to be asked that, I just can't even put myself there" (p19)*	*'started' thinking it, it might have come back" (p10)* (+/-) = 0 *N/A*	*because you are afraid that they are gonna take away your baby, so it could be very triggering if the answer is something other than 'never" (p2)* (+/-) = 0	*sudden flash of like 'oh god I just wanna not wake up, I'm so tired', you know, it's almost quite casual and we sometimes have these crazy thoughts when we're really tired, and it feels more like that than like a really serious question I suppose" (p21)* (+/-) = 0
PDSS, item-14*	(+) = 7 *"That felt OK to me reading that one out" (p3)* **(-) = 24** *"I would prefer it if it didn't have the thing about the 'living nightmare', 'cos I think that's really putting words in someone's mouth, and that might not be their experience" (p10)* (+/-) = 1 *"It's quite emotive and I honestly don't know either way if that's a good thing or a bad thing" (p13)*	(+) = 1 *"It's understandable in a sense 'cos it's in plain English and it's almost conversational, casual language, which might make it better" (p1)* **(-) = 4** *"Not only is it offensive to have to rate that, but it's also really confusing because it's such a lot, it's a long complex sentence" (p17)* (+/-) = 0 *N/A*	(+) = 0 *N/A* **(-) = 15** *"Framing it as like a 'living nightmare', even if you may be thinking that, it would be hard to kind of like properly admit that or answer that honestly because of all of the wider conflicts" (p7)* (+/-) = 0 *N/A*	**(+) = 3** *"I think the question is appropriate for sure in terms of the topic" (p5)* (-) = 1 *"From my own experience, that doesn't resonate with me" (p12)* (+/-) = 0 *N/A*
PDSS, item-21*	**(+) = 10** *"I don't feel that one seems as emotive for some reason, it's quite a direct way of getting that information and so in that way, this question is good" (p6)* (-) = 4 *"I might want to change the phrasing to something like 'I've had thoughts about hurting myself' or something like that 'cos 'wanting to' feels a bit stronger than 'thought about it" (p1)* (+/-) = 0 *N/A*	(+) = 6 *"It's quite broad, but it makes absolute sense in the way it's worded" (p2)* **(-) = 15** *"I think there could be some struggle to answer that question in terms of how people interpret it" (p9)* (+/-) = 0 *N/A*	**(+) = 3** *"Here you've got the chance to expand and to express yourself more and it's a little bit less judgmental, so I would feel definitely more comfortable, even if I had to answer 'yes" (p2)* **(-) = 3** *"I think if it just came out of nowhere, I think maybe a lot of people's response is gonna be like 'well no' straight away, or they might get a bit upset or offended by it" (p13)* (+/-) = 0 *N/A*	(+) = 2 *"I don't know if it's right to, but I would see self-harm as being part of suicide, as [suicide] being an act of self-harm" (p18)* **(-) = 12** *"I can't really relate to this very well, because when I think of 'hurting myself', I think of it as self-harm rather than killing, and I certainly didn't 'want' to hurt myself" (p15)* (+/-) = 0 *N/A*
PDSS, item-28*	**(+) = 12** *"It's just very neutral, there's no dramatic language, I think this would have picked up on some key experiences [for me] and would have been useful information for the professionals" (p5)*	(+) = 2 *"This one makes complete sense to me, and would have hit a key thought" (p5)* **(-) = 11** *"Thats not entirely clear, 'cos you could feel that your baby would be better off without you, but you wouldn't*	(+) = 4 *"I definitely think this question is an easier one to confront yourself, because it relates to wanting to protect your baby in a way… I think that there's an element with suicidal questions- a feeling of shame of having those thoughts and so when it comes to wanting the best for your baby… even if it's in a very*	(+) = 0 *N/A* **(-) = 15** *"That one doesn't necessarily talk to me about suicide, I mean not at all actually, and I'm only just remembering that this [interview] is about suicide actually, you can*

	(-) = 10 *"I think that's quite an upsetting question, it's kind of like 'you're not good enough' and I just think that would be quite triggering to see in writing there, like you're kind of failing your baby" (p7)* (+/-) = 0 *N/A*	*necessarily mean that's because you wanted to complete suicide, you might just think that the baby would be better with someone else" (p11)* (+/-) = 0 *N/A*	*negative way, it's still something that's easier to confront to yourself, if you know what I mean" (p6)* **(-) = 7** *"That kind of question would put my barriers up a little bit, it's not something that I would find easy to admit… I think that one of peoples biggest fears when it does come to their mental health and being a new mum and stuff is the baby being taken from them, so for that question, you're acknowledging yourself that you think the baby would be better taken- better without you, then is that gonna be a trigger for someone taking your baby [?]… yeah, I think that I'd struggle to answer that question honestly" (p8)* (+/-) = 0 *N/A*	*say that about your baby, and you just mean 'I can't do it, I can't do this parenting, I'm rubbish at it" (p17)* (+/-) = 1 *"I think it would depend a bit on context, if there were a lot of questions around adoption or addiction, or quality of life, or socioeconomic situation, then I would not interpret it the same way as if there were a lot of questions around suicide and self-harm, so it would depend on the context of the questionnaire" (p18)*
PDSS, item-35*	(+) = 8 *"When you're almost playing down the language a little bit, it kind of feels less scary… [I] see it as more acceptable, like the play on the words there feels- there's definitely something perhaps less emotive there" (p10)* **(-) = 14** *"I feel like that's quite dramatic language, I'm kind of picturing someone in a film, you know, crying hysterically… maybe it's something about 'leaving this world', it almost implies that there's somewhere else to go to, and for people who have a religion, maybe that might ring true for them, but for me that doesn't" (p3)* (+/-) = 0 *N/A*	(+) = 2 *"To me, it is very clear that is talking about ending your life, like for me, I don't feel that there's ambiguity around the meaning of that and what the person's intention would be" (p10)* **(-) = 14** *"This is a weird question, it conjures images of like being in a rocket ship and being shot out into space… it just feels very broad, and I don't if that's something I'd be able to answer, like if I think back to when I was in that sort of mind frame, I would be like 'what the fuck' [?], I would just wouldn't get it, like 'what [?]" (p12)* (+/-) = 0 *N/A*	(+) = 0 *N/A* **(-) = 3** *"The wording is still equally strong and a bit leading into one answer or the other, so I would classify that as quite strong, and you can be taken aback if you're answer is anything else but no" (p2)* (+/-) = 0 *N/A*	(+) = 4 *"To me, that is very clear that is talking about ending your life, like for me, I don't feel that there's ambiguity around the meaning of that and what the person's intention would be, so I feel that would be like a stronger question in terms of finding someone who had seriously contemplated suicide" (p10)* **(-) = 10** *"It is probably just one of those phrases where you have just had enough and you just need a break, so I don't think that would provide enough clarity, I don't think that people would maybe acknowledge that the question that they're asking would obviously be about killing yourself" (p8)* (+/-) = 0 *N/A*
SRQ-20, item-17	**(+) = 23** *"I don't mind that question actually, because it kinda uses that phrase 'ending your life' which I feel more comfortable with, and I think 'has it been on your mind' kind of leaves it*	(+) = 4 *"It's very clear, it's clear what it means" (p17)* **(-) = 11**	(+) = 1 *"I'd receive this much better, if someone said to me 'has the thought of committing suicide occurred to you often' I'd be quite taken aback by that, like 'ooooh, OK, err no' but then if it was like 'has the thought of ending*	**(+) = 9** *"It could be quite helpful because it is quite soft, kind of like a gentler approach to sort of delve deeper, the language is probably a bit more accessible in this question I would say, yeah, it just feels more open" (p10)*

	open, it's not about 'is it often, is it all the time', I feel more comfortable with it because it's slightly gentler" (p7) (-) = 5 *"I dunno about that one, I think maybe because it is less clinical, it does make it a little bit harder, I kinda find that a bit too personal for me to be honest, it's about the emotion that's behind it, so that's a bit more challenging for me to be honest" (p8)* (+/-) = 0 *N/A*	*"That feels like a really convoluted way of asking 'have you thought of ending your own life', I think it's about the 'on your mind part' it's like 'yeah, that's on my mind as is everything else that's been on my mind', you know, 'the world socio political situation, climate collapse, like there's a lot on my mind', I think it's the 'on my mind' part [that is confusing]" (p12)* (+/-) = 0 *N/A*	*your life been on your mind', I think if it had been on my mind, I think I'd probably be more inclined to say 'yes', it's more gentle and it just feels less intrusive" (p7)* **(-) = 2** *"Ending your life' is a bit more emotionally provoking than the 'suicide', and I found anything that was emotionally provoking was quite difficult to answer, so for me, I wouldn't want something that was gonna emotionally provoke me 'cos then I probably might not answer it, or be unable to answer it" (p9)* (+/-) = 0 *N/A*	(-) = 0 *N/A* (+/-) = 0 *N/A*
Ultra-Short, item-4	(+) = 8 *"That's probably how I would want it worded to me, 'thought' is kinda soft enough that it's not saying that you're definitely gonna do it, and 'suicide' is a way of kinda saying what you mean without being quite as frightening as 'death', yeah I'm happy with that kinda wording" (p8)* **(-) = 21** *"I mean 'committing suicide' is really just not appropriate language I don't think, I know that I wouldn't say commit suicide because it's just not a crime right, so I would rather have 'has the thought of taking your own life or ending your own life occurred to you', so yeah, I'm not a fan" (p12)* (+/-) = 0 *N/A*	(+) = 1 *"It's just to the point isn't it, it's very clear what it is, yeah" (p19)* **(-) = 20** *"But 'often' what does that mean [?] 'occurred to you often', I think that's the bit that's hard, that could mean different things to different people, the fact that it's probably occurred to you at all is probably an issue… yeah, I just don't like that part of it, I just don't think that's really gonna be helpful 'cos then if you're someone like me and you'd thought it once you'd be like 'no, I've not" (p4)* (+/-) = 0 *N/A*	(+) = 0 *N/A* **(-) = 11** *"I would have concerns that they would be judging and holding and gatekeeping what needs to be defined as 'often', and I never say 'commit suicide', I think that could even subconsciously affect a woman, like we hear that phrase and even if you're not consciously aware of the history of the language, I still think it has that affect because it's so embedded in our culture, somehow we understand it, so yeah, the other ones are definitely easier to answer than anyone asking me 'are you thinking of committing suicide', it's not a crime" (p5)* (+/-) = 0 *N/A*	**(+) = 6** *"The word 'committing' is giving you more of the action, so it's getting a little bit closer to the actual thinking of it in terms of doing it, maybe going to places where you think you might commit the suicide, buying anything that you might want to assist with it, so there's the thought of the actual doing it, but then there's the thought of the process of how you would need to do it as well, and it's all relevant" (p9)* (-) = 0 *N/A* (+/-) = 0 *N/A*

Notes: (i) symbols (+, -, +/-) represent (+) positive, (-) negative, (+/-) or neutral/indifferent coding instances.; (ii) numerical values represent the number of unique (+), (-), or (+/-) coding instances per item/construct, and not the number of participants; (iii) codable data was not available from all participants for all items/constructs, and some participants may have provided more than one unique comment per item/construct (e.g., one participant may have made two (+) comments about different aspects of one item, or one (+) and one (-) comment); (iv) **bold** indicates the highest number of coding instances for the item/construct; (v) *N/A* = no codable data/quotations were identified for this item/construct; (vi) (p1), (p2), etc, represent the anonymous participant identifiers for each quote. (vii) * measure has been validated in perinatal populations.
Measures: Beck Depression Inventory (BDI) (Beck et al., 1961); Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden, & Sagovsky, 1987); Inventory of Depression and Anxiety Symptoms (IDAS) (Watson et al., 2007); Postpartum Depression Screening Scale (PDSS) (Beck & Gable, 2000); Patient Health Questionnaire-9 (PHQ-9) (Kroenke, Spitzer, & Williams, 2001); Self-Reporting Questionnaire-20 (SRQ-20) (Harding et al., 1980); Ultra-Short Maternal Mental Health Screen (Ultra-Short) (van Heyningen et al., 2019).

Table 4.5 Number of positive, negative, and neutral/indifferent coding instances for the suicide-related item response options and recall periods, with illustrative participant quotes

	TFA construct	
Measure	Response options	Recall period
BDI, item-9	**(+) = 11**, (-) = 10, (+/-) = 0	(+) = 1, **(-) = 8**, (+/-) = 0
	(+) *"The scale is quite interesting actually, quite helpful, because it gives people a chance to really reflect on the thoughts they've been having and think about like the nature of them, like 'is it this, is it- how do I actually feel about this', 'cos I guess in a way, actually it's quite helpful for people to have a moment to think, you know, 'how serious is this' and reflect on it, which I think is quite good, and that's quite helpful because it gives much more information" (p21)*	(+) *"The past seven-days is OK" (p1)*
	(-) *"It feels a bit weird not having a question there, so it feels a bit uncomfortable, it feels a bit like a quiz, it's really weird" (p7)*	(-) *"Again, you probably don't need the past seven-days, you could do it 'since pregnancy' if you were trying to identify someone" (p6)*
	(+/-) *N/A*	(+/-) *N/A*
EPDS, item-10	**(+) = 14**, (-) = 8, (+/-) = 3	(+) = 11, **(-) = 19**, (+/-) = 2
	(+) *"It would be clear to me what the answers are, you could probably easily pick one of them" (p18)*	(+) *"I think seven-days is probably about right, when you're in that first month or two, seven-days is a really long time period, you're awake for almost 24-hours of each of those seven-days and so having a fairly short timescale still captures quite a lot of variability I think, so yeah, seven-days for perinatal feels about right to me" (p3)*
	(-) *"I think when you're in that mindset it might be really difficult to kind of decide, where you feel you'd fit into that, which could lead to that person thinking… 'oh, I don't wanna say' because it's hard trying to fit yourself into a box" (p9)*	(-) *"I actually think it should be over a longer period because in a way it's quite dismissive isn't it… I'd feel a bit like 'maybe I shouldn't say anything' or 'maybe it doesn't matter if it was over seven-days ago 'cos it's not as important" (p7)*
	(+/-) *"I don't know that if somebody's feeling like they wanted to hurt themselves [they] would necessarily think about the kind of frequency of that thought, I don't know" (p17)*	(+/-) *"I mean maybe what might be helpful is 'seven-days' and then in the 'past six-months or a year" (p18)*
IDAS, item-7[1]	(+) = 4, **(-) = 27**, (+/-) = 0	(+) = 3, **(-) = 9**, (+/-) = 0
IDAS, item-9[1]	(+) = 4, **(-) = 27**, (+/-) = 0	(+) = 3, **(-) = 9**, (+/-) = 0
IDAS, item-14[1]	(+) = 6, **(-) = 23**, (+/-) = 0	(+) = 3, **(-) = 9**, (+/-) = 0
IDAS, item-15[1]	(+) = 3, **(-) = 25**, (+/-) = 0	(+) = 3, **(-) = 9**, (+/-) = 0
IDAS, item-41[1]	(+) = 3, **(-) = 25**, (+/-) = 0	(+) = 3, **(-) = 9**, (+/-) = 0
IDAS, item-43[1]	(+) = 2, **(-) = 26**, (+/-) = 0	(+) = 3, **(-) = 9**, (+/-) = 0
	(+) *"I quite like the 'extremely' bit, 'cos you get a sense of how it's impacting someone's life, and you know, 'OK, yeah, a little bit' rather than the 'several days', so I think I prefer the scale on this one" (p20)*	(+) *"I mean it's still an OK timescale, you would definitely be able to use that timescale, you could fathom the answer, and it will capture more people than just the last seven-days" (p18)*

	(-) *"I could see me getting a bit confused here, like have you asked me to quantify them, like 'thoughts of, like how may', but then 'extremely' makes me think of intensity, so those answers confuse me because I think 'well, what do you want', are you asking about how many thoughts, how often, or are you asking like how intense they are [?], those are two very different things, and this feels a bit jumbled between intensity and frequency, and I'm not quite sure how I would answer that" (p5)* (+/-) *N/A*	(-) *"Again, I think putting kind of weeks on it is quite arbitrary, I think it should just be kinda a generalised period of 'pregnancy, post-birth' or that kind of thing" (p8)* (+/-) *N/A*
PHQ-9, item-9	**(+) = 13**, (-) = 10, (+/-) = 0 (+) *"The frequency scale is more meaningful I think, yeah, I would understand what I was being asked there and be able to answer it accurately 'cos this one gives you an option of 'not at all' which is good, and then obviously going up to 'nearly every day" (p11)* (-) *"I hate these answers, I hate 'more than half the days' I mean what are you supposed to do, calculate them [?], it doesn't make sense to me, I understand 'not at all' and 'nearly every day' I get those two, but 'several days', and 'more than half the days' I've never really understood that and I don't like the way it's phrased, it's too much of a thinker, you're not going to know exactly which days you have and haven't, so it's either 'sometimes' or 'not at all' or 'every day', isn't it [?]" (p15)* (+/-) *N/A*	(+) = 3, **(-) = 11**, (+/-) = 0 (+) *"That [timescale] would have worked better for me" (p5)* (-) *"I would like expand that timeframe as I think you could miss out on some people by limiting yourself to two-weeks" (p13)* (+/-) *N/A*
PDSS, item-7[2]	(+) = 6, **(-) = 26**, (+/-) = 0	(+) = 6, **(-) = 16**, (+/-) = 5
PDSS, item-14[2]	(+) = 8, **(-) = 22**, (+/-) = 0	(+) = 5, **(-) = 16**, (+/-) = 3
PDSS, item-21[2]	(+) = 10, **(-) = 22**, (+/-) = 0	(+) = 5, **(-) = 16**, (+/-) = 3
PDSS, item-28[2]	(+) = 9, **(-) = 23**, (+/-) = 0	(+) = 6, **(-) = 15**, (+/-) = 3
PDSS, item-35[2]	(+) = 9, **(-) = 21**, (+/-) = 0 (+) *"I like that you get to 'feel' the answers, so 'strongly agree', it's like you're strongly feeling that, or you're 'strongly agreeing' with that" (p15)* (-) *"That scale's just really strange isn't it, it's like quite cold, it just feels very clinical, like would you really tick 'oh, strongly agree or agree' if you were in that headspace, I mean I'm not in that headspace and I would feel a bit uncomfortable about answering like 'disagree or strongly disagree', and 'neither disagree or agree' just feels very weird as well, I don't know if I'd want to see this scale" (p7)* (+/-) *N/A*	(+) = 5, **(-) = 15,** (+/-) = 3 (+) *"The past two-weeks again is a fairly short timeframe, so you've got still quite clear memories of what's been happening" (p2)* (-) *"I do feel like the timeframe still feels quite short, I don't think memory is an issue really, because people do generally recall if they have quite serious suicidal thoughts, so I just think the timeframe is a bit of a funny one and I almost wonder if it needs to be like, you know, 'since you've been pregnant or since…' 'cos it's more about the pregnancy itself than it is about the time, so I'm wondering that for all the questions really" (p21)* (+/-) *N/A*
SRQ-20, item-17	**(+) = 9**, (-) = 3, (+/-) = 1	(+) = 2, **(-) = 10**, (+/-) = 0

	(+) *"I think that almost 'yes/no' questions are a bit easier to verbalise, I mean the frequency is useful diagnostically, but beyond therapy, I'd have an initial one which is just 'have you had these thoughts" (p6)* (-)*"It's almost, if you're answering 'yes', then it feels like you're constantly thinking about it, I don't think that gives you enough kinda options, its either 'yes, it's on your mind', like that's it, or it's not, like a fleeting thought that you're having every now and again, so I think that the 'yes or no' is probably a bit divisive for that one" (p8)* (+/-) *"I might change the answer options to some sort of frequency-based scale 'cos you're not getting enough information, although it's definitely not as much of an issue as it was with the previous question because answering 'yes' kind of implies that its once or at least once, which is already enough to continue on with more detail" (p13)*	(+) *"That's sort of got like a slightly longer- like the 'past month', I think that feels a bit more [appropriate] 'cos it's over a longer period of time, so yeah" (p7)* (-) *"Over the past month' I mean that's a doable timeframe, but it will depend on what people are trying to get out of it, and I don't like there being cut offs, so I would prefer if it was 'ever" (p18)* (+/-) *N/A*
Ultra-Short, item-4	**(+) = 11**, (-) = 8, (+/-) = 0 (+) *"I think 'yes or no' is probably better than the previous options, just because if there is a thought there, then it obviously needs to be looked at, regardless of the frequency or the severity of it" (p9)* (-) *"Suicide' is a strong word, so when you put it this way and it's just a 'yes or no' maybe it is a bit intimidating so having 'never, at least once, or often' could allow women to open up and say 'yeah, maybe at least once' so it allows women to be a little bit less protective of themselves in opening up without feeling too judged I guess, that's how I would feel" (p2)* (+/-) *N/A*	**(+) = 8**, (-) = 7, (+/-) = 1 (+) *"I think the timescale is probably more helpful than in previous questions because it's obviously longer and that probably takes into account some fluctuations of general life and mood and mental health and things like that" (p10)* (-) *"I would even consider having it for a longer period to be honest, because I would like to answer through the whole pregnancy, from the day I found out until now, because these type of questions are something that I'm not gonna forget" (p2)* (+/-) *"A month is maybe a little bit better, I feel like it's not quite as restrictive, I wouldn't have quite as much of an issue as saying it was in the last seven-days or if it was in the last fortnight, but again, I still think that 'recently' or something like that would be a bit better" (p8)*

Notes: (i) superscript numbers ([1, 2]) indicate the same response options and recall periods (e.g., subscale); (ii) symbols (+), (-), (+/-) represent (+) positive, (-) negative, (+/-) or neutral/indifferent coding instances.; (iii) numerical values represent the number of (+), (-), or (+/-) coding instances for the item response options and recall period, and not the number of participants; (iv) codable data was not available from all participants for all item response options or recall periods, and some participants may have provided more than one unique comment per item response option or recall period (e.g., one participant may have made two (+) comments about different aspects of a response option, or one (+) and one (-) comment); (v) some participants made one or more comments that applied to all PDSS and/or IDAS item response options and/or recall periods; (vi) only one (+), (-) and (+/-) illustrative quote has been provided for the PDSS and IDAS subscale items and recall periods; (vii) **bold** indicates the highest number of coding instances for the item response option and recall period; (viii) *N/A* = no codable data/quotations were identified for this response option or recall period; (ix) (p1), (p2), etc, represent the anonymous participant identifiers for each quote.
Measures: Beck Depression Inventory (BDI) (Beck et al., 1961); Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden, & Sagovsky, 1987); Inventory of Depression and Anxiety Symptoms (IDAS) (Watson et al., 2007); Postpartum Depression Screening Scale (PDSS) (Beck & Gable, 2000); Patient Health Questionnaire-9 (PHQ-9) (Kroenke, Spitzer, & Williams, 2001); Self-Reporting Questionnaire-20 (SRQ-20) (Harding et al., 1980); Ultra-Short Maternal Mental Health Screen (Ultra-Short) (van Heyningen et al., 2019).

4.4.2.1 Affective attitude

This construct is concerned with how women felt about the different suicide-related items. Whilst all participants expressed that it was important and necessary for healthcare professionals to ask about suicidal thoughts and/or behaviours at regular intervals throughout pregnancy and after birth, differences in how the items were worded influenced their level of comfort and reactions to them.

Item wording and content

Many women were uncomfortable with items that used words such as "dead" (PHQ-9, item-9; PDSS, item-7) "death" (PDSS, item-14) or "kill" (BDI, item-9). These words felt upsetting and confronting to them because they emphasised the finality of what thinking about suicide might result in.

> *"I personally do find that one a bit more of a confronting question, even just with it being 'dead' at the end of the sentence, that's quite a triggering word I think for someone who maybe does have suicidal ideation, yeah, that's a bit more of an uncomfortable question, 'cos 'dead' that's the final bit isn't it, there's nothing after that." (p8)*

Instead, women preferred the phrase "ending your life" because this language felt slightly softer, and it focussed more on the process of suicide rather than the outcome (SRQ-20, item-17). By phrasing the item in this way, women said they would feel less defensive and more likely to engage in an honest conversation about how they were feeling.

"I'd receive this [SRQ-20, item-17] much better, if someone said to me 'has the thought of ending your life been on your mind' I'd be like 'well no, it hasn't been on my mind' but I think if it had been on my mind, I think I'd probably be more inclined to say 'yes', I think it probably would open up a conversation because it's more gentle, and in a way, it just feels less intrusive." (p7)

Women were also more comfortable with items that asked about thoughts of "harming yourself" (EPDS, item-10) or "hurting yourself" (IDAS, item-15) because these terms felt more open to interpretation. As such, the women did not feel like they would be admitting to something specific if they endorsed these items, which was less frightening. However, an important caveat to this was that nearly all women interpreted 'harming or hurting' as non-suicidal self-harm.

"For me, that would be quite specific for self-harming, you know, even if I was suicidal at that point, I wouldn't ever think that question had anything to do with me, I would be thinking 'oh no, that's self-harm." (p4)

Women expressed mixed feelings about using the word "suicide" (IDAS, item-7; Ultra-Short, item-4). For some women, this word seemed too direct and clinical, whereas for others it made the item easier to receive because it felt less personal. Two women said that using the word suicide was helpful to them because they might "talk themselves out" of answering questions that used more indirect or 'fluffy' language. Likewise, items that used subjective and/or overly emotive language were largely disliked. Many women stated that the phrases "the only way out of this living nightmare" (PDSS, item-14) and "the world would be better off without me" (IDAS, item-43) were unnecessarily dramatic. Not only was this language

viewed as unsuitable, but women also felt that it might not necessarily describe their experiences. As one woman said:

> *"I don't like the term 'living nightmare', that feels like putting words in someone's mouth in a very extreme way, you know, even if I was feeling suicidal, I would be tempted to disagree with that one because, calling it a 'living nightmare' might not necessarily describe my experiences." (p3)*

Some women also felt that using words such as "wanted to" (PDSS, item-21, and item-35) or "on purpose/purposely" (IDAS, item-9, and item-41) in relation to suicidal and/or harming thoughts and behaviours was inappropriate. They suggested that these words may reinforce feelings of shame and indirectly place a negative onus onto the woman for engaging in harming behaviours. One woman further highlighted how the use of "purposely" reflects a lack of understanding regarding what living with harming thoughts and/or behaviours might look like:

> *"Purposely' gives it an assumption that you know what you're doing, and when you're in a decline of mental health, you don't really know what you're doing, it makes it sound like there's been thought behind it, but when I did it [harming myself] , it was always done in a frantic, very 'on the spot' moment, never from a 'I'm thinking about doing this, I'm going to go and set it up to do that, I'm now going to hurt myself' so yeah, I think 'purposely' gives a really big assumption and it also detracts away from what actually an illness is like, you don't do things 'purposely', you don't even realise that you're doing it until the act is done, and then you get all the shame and things like that afterwards, you don't have control over it." (p9)*

4.4.2.2 Burden and intervention coherence

This construct is concerned with how much cognitive effort was required for the women to understand and/or complete each item, and the extent to which this may affect their views regarding how the item worked to identify suicidal thoughts and/or behaviours. Overall, the clarity of items appeared to be problematic. This related to both the basic structure of sentences and comprehending the implicit meaning of concepts and phrases. Many women said that these issues might cause confusion and difficulty when attempting to answer the items because they would not understand what was being asked of them.

Ambiguity of terms and phrases

Women found it easier to understand short and direct items, rather than those which contained abstract and/or complex terms. Women suggested that it was important to use plain English, and correct grammar to ensure comprehensibility, particularly for those who may not speak English as a first language and/or struggle with literacy. Many women commented positively on the relatability of items that used more 'everyday' language, however they also felt that sometimes these were unclear for identifying suicidal thoughts. For example, women found the phrase "leave this world" (PDSS, item-35) ambiguous. Some suggested that this could mean leaving their current situation or home environment, or simply needing a break, and that they would not know how to respond to this item.

> *"This feels a bit more like esoteric, it feels too subjective, like 'what does that mean [?]', is it in like, abandon family, leave [hometown] like, or is it just voicing views on like 'I've found it really hard being a mum, I found it really hard entering into this new world of parenthood', or does it mean like, 'I want to commit suicide' [?], I mean most*

people will probably be like 'I'm not really sure what that means' so I don't know if you'd 'disagree or agree' because I'm not really sure what this is actually getting at." (p21)

Likewise, many women found words in the item content such as "often" (Ultra-Short, item-4), "occurred to you" (Ultra-Short, item-4; EPDS, item-10), and "on your mind" (SRQ-20, item-17) too broad and subjective. One woman commented:

"Occurred to you often' [?], that's really gonna limit peoples answers because you're gonna have somebody who thinks 'well how often is often, how much is often, what is often [?]' you know, is that once a week out of the past month, every single day, or just once [?], for me, just once is enough, but it couldn't be considered to be 'often' in this context, so I would just get rid of 'often." (p13)

Concept definitions and the implications of nuance

Many women struggled to understand the definitions of "hurt myself" (IDAS item-9 and item-15; PHQ-9, item-9; PDSS, item-21) or "harm myself" (EPDS, item-10). Most women interpreted "hurting or harming myself" to mean non-suicidal harm, but some were unsure as to whether this encompassed both physical and/or psychological harm, intentional or unintentional harm, and to what degree. Women felt that these terms needed far more clarity.

"I mean 'harming' can be a complete range of different methods to different people, I think that's quite broad, it could be emotional, physical, and I would think that the emotional and the physical would be treated differently in terms of 'harm', so I think there could be some struggle to answer that question in terms of how people interpret

it… the stereotypical-ness of it is that you probably think immediately of the physical, of actually doing something to your body externally as opposed to turning to alcohol, turning to drugs, so I think it would be better if it was more granular in what it was asking for, I think it needs to be probably written out directly, of what the different things could be." (p9)

Women had mixed feelings about whether suicidal and non-suicidal harm should be enquired about in the same item. Some women suggested that having a broad item about "harming" or "hurting" oneself may capture more people in need of support, whereas others saw "suicidality" and "harming" as two distinct phenomena that should be asked about independently. Likewise, whilst women said that it was important to identify and distinguish between a desire to die versus intentionally ending your own life, several women felt that the compound item "have you had thoughts that you would be better off dead or of hurting yourself in some way" (PHQ-9, item-9) should be separated. They felt that this item was potentially asking too much e.g., passive and active suicidal ideation, non-suicidal self-harm, or a combination, which could be confusing and make it difficult to answer. A further implication was how a positive endorsement to this item might be interpreted. Some women highlighted that they may have had thoughts relating to one part of the item and not the other, and might not feel comfortable about being associated with both aspects.

"I feel like it's better to ask them as two separate questions actually because I think the detail is good to have, whether it's one or the other, and some people when reading this question might think 'oh, well I don't think I'm better off dead, but I have thought about hurting myself in some way' and so they might kind of dismiss it or not answer it, so yeah, I think it's better to separate them out because they might feel strongly about not

answering one of them in that way and that might steer them to give a less accurate answer of how they're feeling." (p6)

4.4.2.3 Opportunity costs, self-efficacy, and ethicality

This construct is concerned with how confident the women were about answering the different items (and/or feeling confident to answer them honestly) in light of their own value systems, motivation and the potential costs/benefits of their responses. Overarchingly, women talked about the stigma associated with suicidality and their fears concerning the consequences of disclosure.

Stigma, shame, and judgement

For many women the concept of suicide had very negative connotations. Women expressed that the stigma associated with suicide might create a barrier to them answering these items, and/or answering them honestly and they were afraid of the consequences of endorsement (e.g., interventions from social services and/or having their baby taken away). This was particularly heightened for items that included the word "suicide" or "committing suicide" (IDAS, item-7; Ultra-Short, item-4), "dead" (PHQ-9, item-9; PDSS, item-7), "death" (PDSS, item-14) or "kill" (BDI, item-9).

"That's a really big thing to disclose to anyone, and especially if you are pregnant or if you've just had a baby, like your first thought would be 'are they gonna take my baby away from me, does this mean I'm gonna end up having lots of interventions', I would be like 'is it safe for me to answer this question or is it going to open pandora's box, is the help gonna be helpful [?]'... but yeah, I think that for me, the biggest barrier would

be thinking 'does this mean that social services are gonna get involved' and that would terrify me, so that would really put me off if I'm being honest." (p10)

Other women further highlighted the implications of using the word suicide in terms of religion and cultural differences.

"Suicide' has got such a negative connotation, especially if you're religious, suicide is a word that like basically, if you do it, you are super bad, you go to hell and everything else, so yeah, it's one of these judgemental words that can make people feel taken aback from telling the truth and being honest about the answers". (p2)

Women also talked about how the experience of suicidality stood against the traditional narratives of motherhood. This inner conflict created feelings of shame and guilt. As such, women may not want to answer suicide-related items through a fear of being perceived and/or judged as a bad mother.

"When you have like a child, there's that feeling of guilt, you feel bad about what's going on and you don't necessarily want to admit that you're feeling down or you're struggling because it's meant to be like the best time ever… and I think there's that conflict there of feeling like you should be feeling great and you've got this amazing joy in your life and everyone says 'oh, just enjoy every moment' and all of that kind of stuff… so it kind of just goes against the whole narrative around having a baby and what it's meant to be like… it would be hard to like properly admit that or answer that honestly because of all the wider conflicts as like a new mum." (p7)

The importance of context and framing

Some women found broader items (e.g., "the thought of harming myself has occurred to me", EPDS, item-10) less frightening to be asked, they felt more confident in their ability to answer these honestly and suggested that these types of items might be useful for 'opening up a conversation'. The women also talked about the importance of context, framing and normalising suicide-related items, and providing more information about why these questions were being asked as this would help to facilitate a more honest dialogue with healthcare professionals.

> *"You need a very sensitive introduction to a question like this, or to a whole questionnaire maybe, something like 'we know that new parents can have thoughts about harming themselves, we want to find out if this is something that you've experienced so that we can put in place the right support for you', I think you are more likely to kind of take it in if someone says it to you … normalising the fact that these thoughts can occur for new parents is important." (p3)*

4.4.2.4 Perceived effectiveness

This construct is concerned with the extent to which women perceived the items as likely to serve their purpose. It is important to acknowledge that the 'effectiveness' of these items for identifying suicidal thoughts and/or behaviours is profoundly embedded within and influenced by the other TFA constructs, and heavily dependent upon additional factors such as context and individual differences. Bearing these significant implications in mind, the women did offer insights regarding the potential usefulness or relevance of some items for identifying suicidal thoughts and/or behaviours.

Many women felt that items related to “harming or hurting yourself” were unclear and may not be useful or relevant for identifying suicidal thoughts as they would associate them more with self-harm. Likewise, items that used vague and/or abstract terms were not perceived to be particularly helpful, and nearly all women felt that the item “I thought about my own death” (IDAS, item-14) would be ineffective for asking about suicidality. As one woman said:

> *“So, that doesn't speak to me necessarily about suicide, you know, ‘I thought about my own death’ is thinking about when you might die, what might happen when you die, and if you're pregnant or have just had children, then you may well think quite a lot about your own death, so yeah, I don't think that would pick up on suicide at all.” (p17)*

Despite the directness and heightened negative undertone of terms such as “suicide” or “dead”, some women did feel that these words were more likely to be effective for identifying suicidal thoughts, because it was clearer what the item was asking.

> *“I think it’s clear and direct [IDAS, item-7], which I think if you’re trying to identify women that are likely or thinking of suicide, that’s quite a good one.” (p20)*

Likewise, women saw potential utility in the phrase “ending your life” (SRQ-20, item-17) for identifying suicidality because they felt that it was very specific, and it would capture the more active suicidal thoughts as opposed to passive thoughts about not wanting to be here anymore.

"This one is better than the previous ones because its 'ending your life', the language is softer, and it's more direct, so with 'ending your life', the implication is that you would do it rather than just, you know, you not being around anymore." (p13)

A few women also commented on the issue of interpreting items for those who don't speak English as a first language and suggested that the word "suicide" may not be as easily translatable as other terms, which may result in women from this demographic being missed.

"I'm also just thinking as well about mums for whom English isn't their first language, and actually, 'death' and 'dying' are words that we probably come across a little bit more often, and so someone who isn't completely fluent in English might be more likely to understand a question that's asking about 'death and dying', rather than 'suicide' as I don't know how 'suicide' translates to other languages." (p3)

4.4.2.5 Response options

Response options for the items varied, and women were asked to comment on their appropriateness and comprehensibility in relation to the item. Broadly, women preferred a frequency-based scale (e.g., *never* to *every day*), or a dichotomous response choice (e.g., *yes* or *no*) to an agreement scale (e.g., *strongly disagree* to *strongly agree*) or severity-based scale (e.g., *not at all* to *extremely*). However, the women also felt that it was important and necessary to follow-up all responses other than *no*, *never, strongly disagree* and so on with a more in-depth conversation.

Many women felt that frequency-based response options were appropriate for answering difficult and sensitive items because these offered scope for disclosing some amount of thoughts based on individual comfort levels.

"I think having a scale is good, because it allows people to not commit fully 'cos if you can like almost say 'a bit' then people feel a bit safer saying that 'cos they're not saying 'I've definitely felt it all the time, but it's just like 'a bit." (p1)

However, some women expressed that being asked to rate suicidal thoughts on a scale was inappropriate for identifying highly personal and distressing feelings, because this felt like a 'tick box' exercise. They explained how *yes* or *no* response options were more validating of their experiences (SRQ-20, item-17; Ultra-Short, item-4).

"These would be better off as 'yes or no', because you're making someone feel valid in that really strong and upsetting and difficult feeling they're having, asking them to rate it is very odd way of approaching it I think." (p17)

Several women also struggled to differentiate between response options such as *hardly ever* and *sometimes* (EPDS, item-10) because these terms were too subjective and ambiguous. Likewise, whilst some women liked the clarity of being specifically asked how many days they had experienced suicidal thoughts (PHQ-9, item-9), others felt that it was challenging for perinatal women to quantify how often these thoughts had occurred.

"I don't really respond well to these, having to specifically pin-point it to a day, because when you are in those kind of head spaces, and especially having like a baby and stuff, when you're tired, you're not counting days, it's either going to be really frequent or it's not, yeah I don't think you're gonna be counting to see if it's 'half the days' or not." (p8)

Most women had strong negative reactions to the agreement-type and severity-based response options. Women said that using the terms *agree* or *disagree* (PDSS, subscale) felt like a work performance review or generic questionnaire and was highly inappropriate for such a sensitive topic. They also stated that there was no benefit to having the option of *neither disagree or agree*, nor did they understand how to differentiate between *agree* and *strongly agree*. Similarly, the women found the severity-based options (IDAS, subscale) very confusing, and not fitting at all for the types of questions that were being asked.

> *"I mean, 'I had thoughts of suicide, a little bit' I just can't imagine what thoughts of suicide 'a little bit' are [?], the rating thing isn't any good I don't think, and 'extremely', something about that doesn't sit well either, I mean apart from the fact that it doesn't make sense, I think if I was sitting down filling in a questionnaire, and I was feeling extremely suicidal, it just wouldn't feel comfortable to me that wording." (p17)*

Women had mixed feelings about the statement-based response choices (BDI, item-9). Despite all women disliking the content of this item (e.g., "killing myself"), some did see value in the format because it provided a distinction between passive versus active thoughts and intent. Other women said that this style included too much information to process, which would make them feel overwhelmed.

4.4.2.6 Recall period

The recall period for the items ranged from "the past seven-days" to "the past month". Women were asked to provide their thoughts on these timeframes to explore appropriateness and relevance to the items. Overall, the women felt that the recall period for suicide-related

screening items should be longer rather than shorter, although some did comment that shorter recall periods may be necessary and/or useful in certain instances (e.g., to monitor symptom changes for those in specialist care).

The women's preference for wider timeframes was largely due to an overarching concern that people may be missed if the recall period was limited to seven-days or two-weeks. Several women talked about the fluctuating nature of suicidal thoughts and highlighted that these may vary significantly from one day to another. As such, women felt that some suicidal thoughts might not be captured by a shorter timeframe because people may interpret this literally and therefore not disclose anything that had happened outside of the specified period.

> *"You might think, 'well, at the start of the month, I was not in a good place, but this week I feel better' so then, you know, you could answer 'never', because it's asking about the past seven-days and you're just sort of like getting missed, especially someone like me, I do sort of have these like episodes, where I'll be well for a few weeks, and then I can sort of like dip again, so very specifically seven-days I could answer 'never', so it's tricky really." (p14)*

Some women also expressed that putting a time restriction on these types of questions could minimise and devalue their experience of suicidal thoughts. These women said that they might assume that suicidal thoughts were not important to maternity caregivers unless they had occurred within the specified timeframe, which may then deter them from disclosing sensitive and difficult information in case it was dismissed.

"I actually think it should be over a longer period because in a way it's quite dismissive isn't it, if I had thought about harming myself, I don't know whether I'd feel a bit like 'oh maybe I shouldn't say anything' or I might feel like 'oh maybe it doesn't matter if it was over seven-days ago 'cos it's not as important." (p7)

Lastly, whilst most women thought that applying some type of timeframe was necessary when asking about suicidal thoughts and/or behaviours, they also felt that this needed to be contextualised to their current situation. Several women suggested that a more appropriate framing of these items might be to ask "since pregnancy or since your baby was born, have you…" because this would provide both a suitable recall period and it would situate the items in terms of being a pregnant woman or new mother.

"Rather than have it kind of in a timeframe, it almost needs to be like 'since you've been pregnant or since birth', do you know what I mean [?], 'cos it's more about your experience of the pregnancy itself than it is about the time, so I'm wondering that for all the questions really." (p21)

4.5 Discussion

This study assessed the acceptability and content validity of 16 suicide-related items with pregnant and postnatal women using the TFA, and two additional categories of "response options" and "recall period". It also explored the barriers and facilitators that affected women's reactions and responses to these items. This is the first time that the acceptability of different suicide-related items has been examined in perinatal populations, and the first time that the TFA has been applied in this context. Novel findings of this research are that the suicide-related items assessed in this study were largely unacceptable to pregnant and

postnatal women. This finding is contrary to research that suggests more general perinatal mental health screening and/or common screening measures are acceptable to perinatal women (Brealey et al, 2010; El-Den et al., 2015; Kingston et al., 2015a). Therefore, this study makes an important contribution to the literature in the following ways: (i) it offers insight into how perinatal women feel about different suicide-related items that are embedded within measures that screen more widely for depression and/or other mental health problems (including their response options and recall periods); (ii) it highlights factors that may facilitate or prevent perinatal women from answering suicide-related items, and/or answering them honestly; and (iii) it provides a nuanced understanding regarding the utility and appropriateness of using these screening items to identify suicidal ideation and/or suicidal behaviours in perinatal women, which may be valuable and relevant in both research and clinical settings.

The TFA provided a structured and meaningful approach for exploring the acceptability of suicide-related items with perinatal women. Some of the TFA constructs were collapsed in this study to create a coding framework that was suitable for assessing the participant data in line with the study design and research aims (see Table 4.1). Clustering the components in this way allowed for greater depth in understanding how different aspects of acceptability affected the content validity of items, and it provided scope for identifying barriers and facilitators to disclosure when applying these items in the "real world" context. The results suggested that word choice and the terms used to characterise suicide affected women's comfort with and comprehension of the items, and their willingness to engage.

In the following sections, the findings related to the TFA constructs for each suicide-related item or subscale have been summarised to provide an overall assessment of their acceptability. The corresponding response options and recall periods are discussed in terms of

their key strengths and weaknesses. The clinical implications of applying these measures in practice is also considered.

SRQ-20, item 17

Overall, women were most comfortable with SRQ-20, item-17, which asks "has the thought of ending your life been on your mind". Women said that the phrase "ending your life" felt slightly softer than other terms and made the item less confronting to answer honestly. Women also saw potential utility in this item and its response options (*yes* or *no*) for identifying suicidal thoughts in perinatal women, although some felt that the latter part ("on your mind") was confusing and should be modified or removed.

EPDS, item-10

Similarly, women generally found EPDS, item-10, less upsetting than other items. However, many interpreted "harming myself" to mean non-suicidal self-harm, and did not think the item was specific enough for identifying suicidal thoughts. This finding is in line with previous research that also highlighted the ambiguity of this item (Brealey et al., 2010; Qui et al., 2023). Furthermore, whilst most women felt that frequency-based response options were appropriate, some struggled to differentiate between *hardly ever* and *sometimes*, which created additional confusion in answering the item accurately.

PHQ-9, item-9

Women had mixed feelings about PHQ-9, item-9. Some women thought that asking about suicide and self-harm in one item was useful, whereas others felt that these needed to be addressed separately. Several women said they would not know how to answer this item, and/or would not feel comfortable doing so because it was attempting to ask too much.

Likewise, the phrase “better off dead” was largely disliked. Women found this distressing and said that it may prevent them from answering the item. Previous research has observed similar hesitancy from perinatal women towards PHQ-9, item-9 (Velloza et al., 2020; Fellmeth et al., 2023), but it was not clear whether this related to the specific item wording or to the topic of suicide more broadly. Differentiating the terms *several days* and *more than half the days* and having to quantify their answers was problematic.

PDSS, suicidal thoughts subscale

The PDSS suicidal thoughts subscale comprised five items. Generally, women found these items to be overly emotive or dramatic, and/or too abstract for identifying suicidal thoughts in perinatal women. Women also thought that the agreement response option, was unsuitable because it felt generic and undermined the seriousness of the topic. They further struggled to understand what determined *strongly disagree* from *disagree* or *strongly agree* from *agree* and did not see value in the option of *neither disagree or agree* for items related to suicide and/or self-harm.

IDAS, suicidality subscale

The IDAS suicidality subscale comprised six items. Asides from item-43 (“the world would be better off without me”) and item-14 (“I thought about my own death”), women found these items relatively direct and clear. However, most women felt that three of these items (item-9, item-15, and item-41) were self-harm specific, and unlikely to be effective at identifying suicidal thoughts. Likewise, all women were uncomfortable with item-41 “I cut or burned myself on purpose” and felt that this type of question should only be asked as part of a comprehensive assessment and not used for screening. Women also largely disliked the severity scale response options. For example, the response option of *extremely* in answer to

item-7 “I had thoughts of suicide” did not appear to make sense, nor was it befitting to the item.

BDI, item-9 and the Ultra-Short Maternal Mental Health Screen, item-4

Women had the strongest negative reactions to BDI, item-9, and item-4 from the Ultra-Short, which use the terms “killing myself” and “committing suicide”, correspondingly. These items also elicited the most concern from women in terms of perpetuating stigma and inciting fear about the consequences of disclosure. Nearly all women felt that these items were inappropriate for identifying suicidality in perinatal women and they would not want to answer them.

Recall period

Recall periods for the items ranged from ‘seven-days’ to the ‘past month’. Many women felt that longer timeframes should be applied to these items to avoid cases being missed, prevent women’s experiences being minimised and to contextualise these items around being a pregnant or postnatal woman. Several women suggested using the phrase “since pregnancy” or “since the birth of your baby” (or similar) as they found this more relatable to their current situation, and easier to reflect upon in terms of when and/or how frequently thoughts were happening.

4.5.1. Implications for practice and future research

Many suicide-related items that are embedded into existing screening measures for depression and/or other mental health problems may be unacceptable to perinatal women in their current form. Identifying pregnant or postnatal women who may be experiencing suicidal ideation and/or suicidal behaviours poses several challenges in the maternity care

context. Pressures due to financial constraints, a lack of resources, staff shortages and increasing demands and expectations are common across health services. Maternity care practitioners often have little time during routine appointments to enquire about mental health problems with perinatal women, which further increases the potential for cases being missed. Whilst common mental health problems are not universally screened for during pregnancy and after birth in the UK, screening measures do offer a pragmatic approach for identifying women who may require additional support. These measures are generally brief and easy to administer, with a relatively small burden upon resources. However, healthcare professionals and researchers should be aware of the limitations of using the measures assessed in this study to identify possible suicidality in pregnant or postnatal women because the content, comprehensibility and appropriateness of these items and their corresponding response options and recall periods may create and/or reinforce barriers to women's disclosure. There may be some value in using screening measures to identify the presence or absence of suicidal ideation in perinatal women as part of a stepped approach for identifying those who may require additional support, but the development of specific measures that are acceptable to perinatal women for this purpose is warranted. Such measures should not be used to assess suicide risk, predict future behaviours and/or determine treatment outcomes, but instead to indicate that further comprehensive psychosocial assessment might be necessary. New measures should be developed in accordance with evidence-based guidelines such as the Consensus-based Standards for the Selection of Health Measurement Instruments (COSMIN) (2023) and in collaboration with perinatal women. It is also important for maternity care practitioners to consider the framing of suicide and/or self-harm questions when engaging in discussions with perinatal women because wider evidence suggests that subtle differences in wording and communication style can influence and create additional barriers to disclosure (Ford et al., 2021; McCabe et al., 2017, 2023). Adopting a sensitive, open, and non-

judgemental approach may help to foster a trusting and safer environment for perinatal women to share their thoughts and feelings.

Furthermore, research is needed to explore perinatal women's experiences and views on the broader implications of discussing suicide in maternity care settings. This is important because many women commented on the influence of context upon their willingness to disclose suicidal ideation and/or behaviours. Factors including how suicide-related screening questions might be administered, when and/or how frequently they might be asked, and who should ask them, continuity of care, referrals to specialist services and general knowledge about perinatal mental health conditions may be relevant for developing appropriate and acceptable approaches for identifying suicidality in pregnant or postnatal women. Likewise, cultural differences, religious beliefs, language and translation issues, and social factors may create unique challenges for identifying women from different ethnic and minority groups, and future research should explore the wider barriers and facilitators, and the acceptability of suicide-related measures with women from more diverse backgrounds. It would also be useful to examine the acceptability of suicide-related items with pregnant and postnatal women in treatment settings as their views may differ from those identified in non-clinical samples.

4.5.2 Strengths and limitations

Using a theoretical framework to explore the acceptability of suicide-related items with perinatal women is an important strength of this research. Compared to more general approaches for assessing acceptability, the TFA provided a systematic and comprehensive approach for informing the study design and materials, and analysing the in-depth interview data, which enabled key components of acceptability to be explored. Furthermore, given that suicidal ideation and/or behaviours are still highly stigmatised, and that recruiting pregnant

women or women with a new baby poses unique challenges, the sample size and inclusion of participants from across the UK were also significant strengths of this study

Several limitations of this study also need to be acknowledged. Firstly, using the TFA to assess the acceptability of different suicide-related items was a novel approach. The TFA was originally developed to assess the acceptability of healthcare interventions rather than measurement scales per se, hence there was a scarcity of literature or clear guidelines for how the TFA could be applied in this context. In this study, some of the TFA constructs were clustered to create an appropriate framework for exploring the data in line with the research aims. This may have affected the findings because not all constructs were assessed as unique and independent components of acceptability. Likewise, previous research has reported overlap and/or ambiguity differentiating some of the TFA constructs in certain contexts (Pavlova et al., 2020; Toomey et al., 2020), and similar interrelatedness was identified here. This was particularly evident for "perceived effectiveness" which was heavily embedded within and influenced by the other TFA constructs. Therefore, the utility of "perceived effectiveness" as a distinct component for assessing the acceptability of screening measures may be limited, and more suited to healthcare interventions with clearer behavioural and/or treatment outcomes. Secondly, the suicide-related items used in this study were taken from several wider measures of depression, anxiety and/or psychological distress. Examining these specific items in isolation to the full measurement instrument(s), and outside of their intended context, may also be a limitation of this research. The utility of these items when asked in conjunction with their counterpart items may be more acceptable and relevant for identifying wider mental health problems in perinatal women. Likewise, items from the PDSS suicidal thoughts subscale (five items) and the IDAS suicidality subscale (six items) were assessed as standalone items and not in combination together for identifying suicidality. Therefore, the relevance, comprehensibility, acceptability, and appropriateness of some of these items may

have been affected. Similarly, women were not asked to directly comment on the use of depression measures to screen for suicidal ideation and/or behaviours, so the broader acceptability of this approach cannot be inferred. Thirdly, the sample comprised mainly White British pregnant and postnatal women with a high level of education. As such, the views of women from more diverse ethnic, cultural, social, and religious backgrounds is required. Lastly, the formal reading age of the items was not assessed in this study, which may have implications for their linguistic accessibility.

4.5.3 Conclusions

This study assessed the acceptability and content validity of suicide-related screening items with pregnant and postnatal women using the TFA. Whilst all participants agreed that it was important and necessary to ask about suicidal thoughts and behaviours during the perinatal period, the findings from this research suggest that many existing suicide-related items that are embedded into wider measures of depression and/or other common mental health problems are unacceptable to perinatal women in their current form. Item-17 from the SRQ-20 may have some utility for identifying suicidal ideation in clinical and research settings, although modifications to the latter part of the item ("on your mind") should be considered. Maternity practitioners and researchers need to be cautious about using the measures explored in this study for identifying suicidal ideation and/or behaviours in perinatal women because their content, comprehensibility, and appropriateness may create and/or reinforce barriers to disclosure. Stigma, perceived judgement, and a fear of the consequences of disclosure are significant factors that may prevent women from being honest about how they are feeling. More research is needed to explore the acceptability of discussing suicidality in maternity care settings, and the development of specific screening measures for identifying suicidal ideation in perinatal women are warranted. Such measures may help to facilitate the

early identification of those who may require additional assessment and support, which may lead to better outcomes for women, their children, and families.

5 Perinatal women's views and experiences of discussing suicide in maternity care settings: A qualitative study (Article 3)

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5.1 Abstract

Background: Suicide is a leading global cause of maternal death in the first year after birth. Limited research has explored which factors may support or prevent women from disclosing suicidality. This is important for informing appropriate approaches to identifying perinatal women who may require support.

Aims: (i) explore perinatal women's views and experiences regarding the barriers, facilitators, and implications of identifying and disclosing suicidality in maternity care settings; and (ii) explore their perspectives on appropriate approaches for healthcare practitioners (HCPs) to take when asking about suicide during pregnancy or after birth.

Methods: Twenty-one semi-structured interviews with perinatal women in the UK. Of these women, 17 had experienced self-reported perinatal mental health (PMH) problems and/or suicidality. Inductive thematic analysis was used to explore the data and identify themes.

Results: Four themes, comprising 11 subthemes were identified. Barriers that affected women's willingness and capacity to disclose suicidality included: stigma, social expectations of motherhood, not recognising symptoms, not being asked about PMH and/or rushed appointments, lack of care continuity, and HCPs interpersonal skills. Important facilitators were the provision of PMH information and peer support. Women also suggested providing more choice in how PMH and suicide-related questions are administered (e.g., via a form and in-person) and for HCPs to frame these discussions sensitively.

Conclusions: Significant barriers impact perinatal women's disclosure of suicidality. Appropriate approaches for identifying suicidality in maternity contexts need to be developed

that take account of these barriers and support women to feel safe, comfortable, and able to answer suicide-related questions honestly.

Keywords: Suicide; Perinatal; Pregnancy; Postpartum; Assessment; Qualitative

5.2 Introduction

Approximately one in five pregnant or postnatal women experience mental health problems in the United Kingdom (Bauer et al., 2014; Howard & Khalifeh, 2020), with maternal mortality due to mental health related causes now accounting for almost 40% of all deaths between six-weeks to one-year post birth (Knight et al., 2023). Suicide remains the leading direct cause of death in the UK during this time (Knight et al., 2023). Maternal suicide is also a pressing global issue. Prevalence estimates from high-income countries suggest that the occurrence of perinatal suicide is between 5% to 20% of maternal deaths (Howard & Khalifeh, 2020; Grigoriadis et al., 2017; Trost et al., 2022), and in low- and middle-income countries, rates of pregnancy-related suicide are between 1% to 5% (Fuhr et al., 2014). Whilst the UK prevalence of perinatal suicide is relatively low (3.84 per 100,000 live births) (Knight et al., 2022), evidence suggests that many more women will attempt suicide during pregnancy or after birth (Rao et al., 2021). The pooled prevalence of global suicide attempts in pregnancy is estimated to be 680 per 100,000, and 210 per 100,000 in the postnatal period (Rao et al., 2021). Identifying and supporting perinatal women who are experiencing suicidal ideation and/or behaviours, or who may be at risk of suicide is therefore an important public health concern. Targeted approaches for the identification, intervention, and prevention of perinatal suicide need to be developed. However, these need to take account of the complex risk factors, and numerous barriers and facilitators that may affect women's engagement with maternity services and their willingness to disclose suicidality during pregnancy and after birth. Such efforts may help to provide more timely access to the appropriate care for those who require support, and to improve outcomes for mothers and their babies.

It is estimated that up to 50% of pregnant or postnatal women experiencing mental health problems and/or suicidality in the UK are not identified by healthcare professionals during the perinatal period (Bauer et al., 2014; National Childbirth Trust [NCT], 2017). Of

those who are identified, less than 10% are referred to specialist perinatal services (Royal College of Obstetricians and Gynaecologists [RCOG], 2017). Common perinatal mental health (PMH) problems include depression, anxiety disorders, post-traumatic stress disorder, and adjustment disorders. Women may also experience more severe difficulties including postpartum psychosis or suicidality, which are often comorbid with other common PMH problems (Howard & Khalifeh, 2020; Orsolini et al., 2016). Suicidality is understood as an umbrella term for someone experiencing suicidal ideation, suicidal behaviours and/or plans, or who has made a suicide attempt (American Psychological Association, 2018). However, these are distinct processes with differing levels of risk and/or implications in terms of care needs. Universal screening for PMH problems has been considered as one approach for identifying women who may need additional support. However, there is little consensus on the best measures to use, and screening recommendations vary across countries (Reilly et al., 2020; Waqas et al., 2022). Likewise, whilst screening and assessment for PMH problems appears to be acceptable to women generally (Brealey et al., 2010; El-Den et al., 2015; Kingston et al., 2015a), factors such as question content, mode of administration, relationship with healthcare practitioners (HCPs), information about the purpose and outcome of screening, and the perceived stigma associated with mental health problems can significantly affect women's comfort in answering these questions, and/or answering them honestly (Austin et al., 2022; Bayrampour et al., 2017; Hsieh et al., 2021; Forder et al., 2020; Kingston et al., 2015b, 2015c). Less is known about women's experiences of being asked about suicidality. Comprehensive evidence also shows that women face multi-level barriers to accessing PMH care, which influence their help-seeking behaviours (Webb et al., 2023). A focus on woman-centred approaches, professional training and knowledge, and developing therapeutic and trusting relationships have been identified as important determinants for improving women's care and access to PMH services (Webb et al., 2024).

Identifying pregnant and postnatal women who may be experiencing suicidality presents a further challenge. Perinatal women are not asked about suicide as part of their routine maternity care in the UK, and to date, no measure has been specifically designed to identify suicidal ideation and/or behaviours in this group. Likewise, whilst the risk factors, prevalence, and correlates of perinatal suicidality are well-documented in the literature (Arditi-Arbel et al., 2013; Bright et al., 2022; Chin et al., 2022; Gelaye et al., 2016; Meurk et al., 2021; Orsolini et al., 2016; Palagini et al., 2024; Reid et al., 2022a; Xiao et al., 2022), there is limited research that has specifically examined women's views and experiences of discussing suicide in maternity settings, or the unique barriers and facilitators that may affect disclosure in this context. Such insights are important for developing appropriate approaches to the initial identification of suicidality during pregnancy or after birth. Previous qualitative studies have mainly focussed on the experience of perinatal suicidality, suicide attempts and associated factors, and/or tried to theorise this phenomenon (Biggs et al., 2023; De Backer et al., 2024; Musyimi et al., 2020; Praetorius et al., 2020; Reid et al., 2022b; Tabb et al., 2013). Other research has looked at the factors that mental health professionals perceive as important for identifying and reducing suicidal ideation and/or behaviours during pregnancy or after birth (including contributory factors) (Reid et al., 2024), and has explored possible psychological intervention priorities for those experiencing perinatal suicidality (Reid et al., 2023). Dudeney et al. (2024a) also assessed the acceptability and content validity of different suicide-related screening items with pregnant and postnatal women using the Theoretical Framework of Acceptability (Sekhon et al., 2017). Their findings indicated that these items were largely unacceptable to perinatal women in their current form, which has important implications for existing approaches to screening and assessment. The content, differing response options and recall periods affected women's comprehension of the items, their

attitudes towards them, and influenced their willingness to answer the items, with perceived stigma, judgement, and fear being central barriers for non-disclosure.

This study therefore sought to: (i) explore perinatal women's views and experiences regarding the barriers, facilitators, and implications of identifying and disclosing suicidality in maternity care settings; and (ii) explore their thoughts and ideas about the most appropriate approaches for HCPs to take when asking about suicide during pregnancy or after birth. It is also important to note that this study included women who had experienced PMH problems and/or suicidality, and those who had not. Therefore, some of the views expressed come from personal experience, and some are based on women's speculative thoughts about how they might feel regarding this topic.

5.3 Participants, ethics, and methods

5.3.1 Ethics

Research ethics approval was granted by the School of Health and Psychological Sciences Research and Ethics Committee at City, University of London prior to recruitment and data collection (reference number: ETH2122-0757). All participants provided informed consent before their interview. Specific procedures were also developed to minimise any signs of distress and to ensure participant safety. No adverse effects were observed or reported.

5.3.2 Design

This was a qualitative interview study that explored perinatal women's views and experiences regarding the barriers, facilitators, and implications of identifying and discussing suicidality in maternity care settings. The research adopted a pragmatist approach which posited

women's experiences, perspectives, and meaning making as being central to generating knowledge that also serves to address their specific interests in real-world contexts.

5.3.3 Participants, recruitment, and data collection

Recruitment took place between June and November 2022, via social media and snowball sampling. Details of the recruitment procedure, participant inclusion criteria and sample size approach are reported elsewhere (Dudeney et al., 2024a). Twenty-one pregnant and postnatal women participated in a one-to-one interview with the first author, lasting between 60-120 minutes (mean 82 minutes), either online or via the telephone. To address the research aims, the sample included women who had and who had not experienced self-reported PMH problems and/or suicidality. This was important for gaining wider insight regarding the potential barriers and facilitators for disclosing suicidality in maternity care settings from multiple perspectives. To reduce participant burden and make efficient use of research resources, each interview comprised two-components: a semi-structured interview (reported here), and a more structured interview using cognitive techniques. Findings addressing the research questions from the cognitive interviews are reported elsewhere (Dudeney et al., 2024a).

Elizabeth Dudeney and Rose Meades developed a topic guide which drew upon relevant literature and their experience of conducting research in this area (see Appendix F). The guide explored factors that may affect perinatal women's willingness to disclose suicidality and/or engage in conversations about suicide in maternity care settings, and explored their experiences and thoughts regarding the most appropriate approaches for HCPs to take when discussing this. Interview questions were open-ended which allowed for similar questions to be asked of all participants yet provided flexibility in responses and follow-up questions. The interview schedule was piloted with one perinatal woman and refined

accordingly. All interviews were audio-recorded, and later transcribed verbatim and deidentified by Elizabeth Dudeney. Transcripts were analysed in NVivo 14 (Lumivero, 2023).

5.3.4 Data analysis

Data analysis was guided by Braun and Clarke's (2006, 2021) approach to Thematic Analysis. Following familiarisation with the dataset, initial codes were applied line-by-line to each transcript to capture the semantic content or latent concepts expressed. These codes were then organised into broader themes and sub-themes through an iterative process of combining or splitting codes, and removing those that did not meaningfully contribute to the emerging themes. Elizabeth Dudeney conducted the initial coding and generation of themes. Themes were then reviewed and further refined by Elizabeth Dudeney and Rose Meades to ensure accuracy and trustworthiness of the analysis. A PhD student in health psychology also independently conducted confirmatory coding for 20% of the transcripts, with any minor discrepancies discussed and/or amended as needed (e.g., slight differences in the interpretation of some code labels and alternative wording suggestions). Final themes and subthemes were agreed by all authors. Reporting adheres to the Standards for Reporting Qualitative Research (SRQR) (O'Brien et al., 2014).

5.3.5 Researcher reflexivity

The authors acknowledge that their positioning, backgrounds, and experiences may have influenced data collection and interpretation of findings. Elizabeth Dudeney and Rose Meades met regularly to challenge and discuss this throughout the interview and analytic phases of the research. Elizabeth Dudeney is a female doctoral researcher who has completed training in identifying and signposting suicide risk, and of conducting sensitive qualitative interviews for research purposes. Elizabeth Dudeney conducted all interviews and sought to

create a safe and non-judgemental environment for participants to share their thoughts and feelings, whilst being cognisant not to privilege any particular views or opinions or impose her own. Rose Meades and Susan Ayers both have extensive expertise and experience in PMH and measurement research, and Rose McCabe specialises in professional-patient communication in mental health care research, including how to improve outcomes for those who experience suicidality and/or self-harm. All authors are also mothers.

5.4 Results

5.4.1 Sample characteristics

Twenty-one women took part, three were pregnant at the time of their interview and 19 had a child under the age of two. Ages ranged from 29 – 42 years (mean 33.9). Sixteen women were White British, and 20 spoke English as a first language. Most women (n = 19) held a bachelor's degree or above. Full sociodemographic information is presented in Table 5.1.

Self-reported PMH problems and/or suicidality were endorsed by 17 women, although these women were not asked to specify their diagnosis. Five of these women had not experienced any mental health problems and/or suicidality prior to pregnancy. Mental health problems and/or suicidality prior to most recent pregnancy was reported by thirteen women. Of these, only one participant did not experience PMH problems. Fifteen women reported having received some type of treatment or support for their mental health problems, either before or during the perinatal period.

Table 5.1 Sample characteristics (n = 21)

Sociodemographic variable	*M (range)* or *n* (%)
Age	33.9 (29 – 42 years)
Perinatal phase (at time of interview)	
Pregnancy	2 (9%)
Postnatal (≤ 24-months)	18 (86%)
Pregnant and postnatal*	1 (5%)
Number of additional children	
0	14 (67%)
1	4 (19%)
2	3 (14%)
Mental health problems and/or suicidal thoughts during most recent pregnancy and/or after birth	
Yes	17 (81%)
No	4 (19%)
Mental health problems and/or suicidal thoughts at any other time in life	
Yes	13 (62%)
No	8 (38%)
Treatment and/or intervention for mental health problems at any time in life (including perinatal period)	
Yes	15 (72%)
No	3 (14%)
Not applicable	3 (14%)
English as first language	
Yes	20 (95%)
No	1 (5%)
Education	
Secondary school (e.g., GCSE, SVQ level 1)	1 (5%)
Post-secondary (e.g., A-level, National Diploma	1 (5%)
Bachelor's degree, or equivalent	8 (38%)
Master's degree, or equivalent	7 (33%)
Doctorate	4 (19%)
Cultural background	
(White) English/Welsh/Scottish/Northern Irish/British	16 (77%)
(White) Irish	2 (9%)
Any other White background	2 (9%)
(Mixed/multiple ethnic groups) White and Asian	1 (5%)

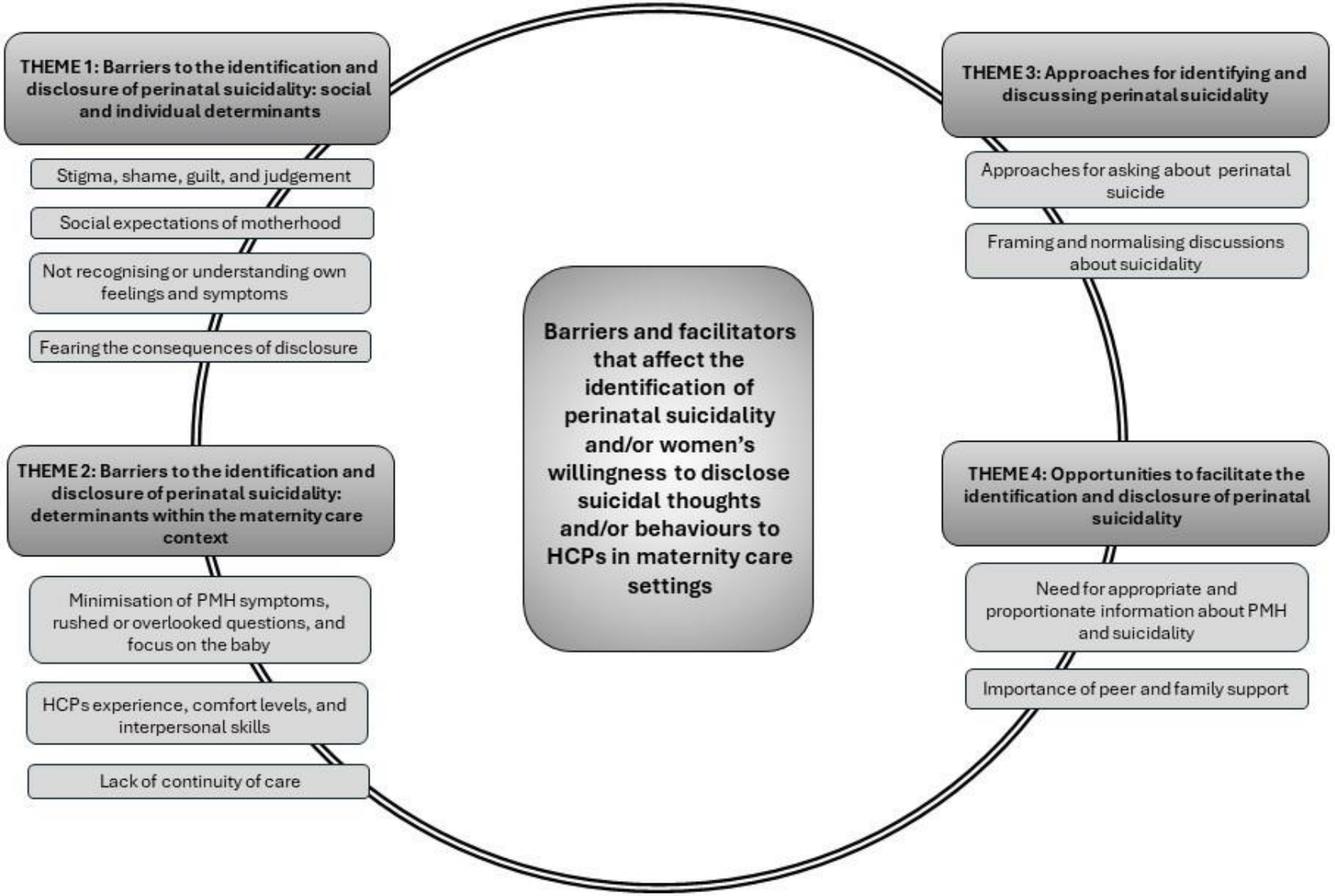
Notes: *One participant was pregnant at the time of their interview and had a child under two years old.

5.4.2 Overview of findings

Thematic analysis identified four main themes, comprising 11 subthemes: (i) Barriers to the identification and disclosure of perinatal suicidality: social and individual determinants; (ii) Barriers to the identification and disclosure of perinatal suicidality: determinants within the maternity care context; (iii) Approaches for identifying and discussing perinatal suicidality; (iv) Opportunities to facilitate the identification and disclosure of perinatal suicidality.

In the following sections, themes and subthemes are discussed using illustrative participant quotes to support them. All themes and subthemes are also presented in Figure 5.1.

Figure 5.1 Overview of themes and subthemes



5.4.2.1 Theme one: Barriers to the identification and disclosure of perinatal suicidality: social and individual determinants

This theme concerns the individual and social factors that impacted women's willingness and capacity to disclose suicidal thoughts and/or behaviours to HCPs. Women talked about how the wider social narratives regarding suicidality and motherhood created barriers to their help-seeking behaviours, and how a lack of understanding about PMH also affected their recognition of symptoms.

Stigma, shame, guilt, and judgement

Stigma was a central barrier for disclosing suicidal thoughts and/or behaviours. Women described how the negative associations surrounding suicide created feelings of guilt and shame, and prevented them from sharing their concerns or symptoms with HCPs. Many women felt that HCPs would judge and/or perceive them as a "bad mother" if they revealed suicidal thoughts.

> *"It's the intent and shame I think, you know, it's quite shameful and it used to be a crime right, so I think there's a lot of issues there with the concept of suicide, there is a lot of stigma attached… like, I would feel uncomfortable [disclosing suicidality] if I were suicidal because of everything that's associated with that". (p13)*

Social expectations of motherhood

Women's sense of shame and judgement was further exacerbated by societal norms and expectations of motherhood. They felt a sense of loss for their pre-pregnancy lifestyle and identity and described a disconnect between their own challenging experiences of being a new mum and the wider perceptions of how they 'should' be feeling and behaving. Women

said that this tension would prevent them from wanting to share how they were feeling with HCPs.

> *"You feel a little bit in denial, like you don't necessarily want to admit that there's something wrong because of the societal pressures about being happy and feeling like this should be the best days of your life". (p7)*

Not recognising or understanding own feelings and symptoms

Some women also struggled to understand their distressing thoughts and behaviours, and were unsure as to whether these were 'normal' attributes of motherhood. They described feeling confused, fearful, and lonely as they tried to navigate their experiences, often not even recognising that they were having suicidal thoughts until it was discussed.

> *"I think for myself, and maybe a lot of other people, it's confusing… especially around suicidality, the thoughts are so abstract, so it's not until you actually answer the question, like until you actually sort of say out loud, that you're like, 'oh, shit'… and that feels to me like a really important step in the sort of process of reflecting and getting help". (p12)*

Fearing the consequences of disclosure

Women's struggle to identify and acknowledge their difficult thoughts and emotions were further compounded by an intense apprehension about the consequences of disclosing suicidality. Many said that a lack of knowledge about the possible outcomes would prevent them from being honest. A common concern was that their babies would be taken away, but

women also feared being hospitalised against their will, and that personal information would be passed on to family members and/or other services.

> *"I think there's that fear of losing your child, I personally found that quite difficult at the start, because if you sort of say 'yes, I feel like I'm gonna hurt myself' you're scared of the consequences, you know, does that mean you're gonna have your child taken away from you, and I think that's what a lot of women do fear". (p14)*

5.4.2.2 Theme two: Barriers to the identification and disclosure of perinatal suicidality: determinants within the maternity care context

This theme concerns factors within the maternity care context that women felt contributed to their suicidality not being identified, and/or affected their engagement with HCPs. Women described how a lack of priority or focus on their mental health created feelings of unimportance and frustration, and how the quality of their interactions with HCPs was pivotal to their help-seeking decisions.

Minimisation of PMH symptoms, rushed or overlooked questions, and focus on the baby

Many women reported that their mental health was either not discussed during perinatal appointments, or if questions were asked, these were rushed through and/or presented in a manner that did not allow for an honest or meaningful response. This created an environment where women felt unable to share their difficulties because they perceived HCPs to be disinterested in their mental health needs.

> *"... they kind of assume you're not [suicidal] because you've turned up and you seem happy on the outside, and they've kind of dismissed you because they're kind of rushing*

through it, you know, whereas if they're serious about it, I'd feel more serious about answering honestly". (p20)

For those women who did attempt to initiate or engage in a conversation about how they were feeling, many felt that their symptoms were either minimised by HCPs and/or they received a non-validating response such as, *'oh well actually, that's not that often' (p5)*. Women described feeling alone and overlooked, with the focus being disproportionately centred around baby's care.

"I didn't feel like [HCP] was there for me, she was just there for baby, which of course is important, but I'm the one looking after baby, so I need to be OK, you know… my postnatal care was terrible, I felt completely alone, I really struggled, they just turned up at my house and it felt like they were just ticking boxes, it wasn't about me". (p15)

HCPs experience, comfort levels and interpersonal skills

Women also talked about the importance of HCPs interpersonal skills, experience, and approach for managing difficult and personal conversations. Many women felt that their disclosure of suicidal thoughts and/or behaviours was highly dependent on the quality of the relationship they had with HCPs and their level of comfort in asking suicide-related questions.

"They [HCPs] aren't comfortable asking these questions, I think they are really really uncomfortable which then makes me uncomfortable, so that is a major issue, I mean people will still whisper things like 'are you depressed', and you think like 'oh my god, why are you whispering that". (p4)

"The factors that you would want to get an honest response would be like a trusted relationship, someone who's in touch with you fairly regularly, so that you knew that you could trust them through experience, someone who showed that like extra level of emotional intelligence and not just thinking about 'is your baby physically well, are you meeting milestones etc". (p21)

Lack of continuity of care

However, women said that it was extremely difficult to build rapport and trusting relationships in the maternity care context because they rarely saw the same HCPs. Women found this distressing and difficult to manage, especially in terms of discussing suicide.

"When I was pregnant, I don't think I ever saw the same midwife twice, so to have some complete stranger asking you if you are feeling anything like that [suicidality], I mean, you'd have to be extremely trusting or perhaps in a really bad place to go 'yeah, actually I am, please help me". (p10)

The need for continuity of care was further reflected through women's reactions to being asked suicide-related questions during the perinatal period. Those who were asked talked about the importance of introducing these questions from the booking appointment and continuing to ask them at regular intervals throughout pregnancy and after birth. Women felt that this familiarity would help to normalise these discussions, allow them to expect and prepare for them, and they could track the severity and/or frequency of their thoughts and feelings.

"If you're expecting the question, you kind of go into your appointment thinking 'how am I feeling, is something going on, this might be my opportunity to talk about it'… I think if it was just more routine and people knew that they were gonna be asked about it [suicide], you can give a more open and honest answer because you've had time to sort of think about it in advance". (p11)

5.4.2.3 Theme three: Approaches for identifying and discussing perinatal suicidality

This theme concerns factors that women felt were important, appropriate, and necessary in terms of the approach taken to ask about suicidality in maternity settings, and for eliciting more receptive and honest responses. Women shared their preferences for how suicide-related screening questions might be administered, and how HCPs could frame these types of conversations to support disclosure.

Approaches for asking about perinatal suicidality

All women suggested that PMH and suicidality should be discussed during the perinatal period, given certain conditions. Women highlighted the importance of providing a safe and private space, without partners or family members being present (at least initially). Many women also talked about the need for choice in how screening questions are administered and/or how such conversations might take place. Some women described feeling more comfortable talking face-to-face with HCPs, whereas others initially preferred to answer these types of questions on their own using a form. Most women felt that implementing a combination of these approaches was useful and appropriate because it aligned more with person-centred care.

"I think giving women the option to answer the questions beforehand, or in the session is good… having a really easy questionnaire that you complete just before your appointment, and then if anything sort of flags as a risk, then the midwife can go into that a little bit more in your appointment". (p12)

Framing and normalising discussions about suicidality

Women stressed the need for HCPs to sensitively frame and normalise suicide-related questions, both to enable transparency of why they are being asked, and to emphasise their purpose for identifying support needs. Women said that this would help to provide context regarding the occurrence of these thoughts and feelings, and lessen their fears regarding disclosure and outcomes. One participant suggested the following framing:

"I've got a few questions, we know they don't tell us the whole story, so I will be asking you some other questions as well, we ask these questions to everyone, it's not based on anything you've said, and the reason we ask these questions is so we can make sure that we're putting in the right kind of support for you". (p3)

5.4.2.4 Theme four: Opportunities to facilitate the identification and disclosure of perinatal suicidality

This theme concerns the factors that women felt would help facilitate their willingness and capacity to disclose suicidal thoughts and/or behaviours with HCPs. Women talked about the need for clear and accurate information about PMH and suicidality, and described the value of developing supportive networks around them.

Need for appropriate and proportionate information about PMH and suicidality

Women reported having received little or no information about PMH or suicidality, unless they had been referred to specialist services. This lack of knowledge about the possible occurrence of mood changes (including depression, anxiety etc.), services available within maternity care, and/or how to access these, created a significant barrier to their help-seeking behaviours. Women said that providing appropriate and proportionate information about PMH and suicidality from the earliest opportunity would have helped them to better recognise and understand their symptoms, feel more comfortable sharing their concerns with HCPs and reduced their fears about the outcomes of disclosure. Some women also stressed the importance of PMH information being made accessible to partners and family too.

> *"My initial fear of answering these questions was that I didn't have the information and knowledge… I had no idea that a perinatal team even existed in the NHS, but if that information was given upfront, I think it would have felt a bit of a safer environment where 'it's OK, I don't mind being honest and doing these questionnaires because the men in white coats aren't gonna come and drag me away', but if hospitalisation is something that has to be done, there's 'mother and baby units', I didn't know anything about that…". (p9)*

Importance of peer and family support

Access to peer support networks also appeared to be an important facilitator for helping women to acknowledge and share their suicidal thoughts in a safe and supportive environment. Women described how hearing other mothers' stories and building meaningful relationships made them feel more confident to discuss and address their own mental health struggles.

"I only made it through because I made a group of friends in [support group], and we would regularly meet together, and having that support network, and knowing that you're not the only one going through it, and you're not the only one that has these thoughts is just priceless isn't it, maybe just a support group, a coffee morning where new mums can go and meet, that's all I needed". (p16)

5.5 Discussion

This study explored the barriers, facilitators, and implications that influence pregnant and postnatal women's disclosure of suicidality in the maternity care context and inhibit the identification of those who may require support. It also explored women's views regarding the most appropriate approaches for HCPs to take when asking about suicide in these settings. Findings indicated that perinatal women face complex and interrelated barriers that affect their capacity and willingness to share suicidal ideation and/or suicidal behaviours with HCPs. Women reported that their help-seeking behaviours were influenced by individual and societal factors (including stigma, social expectations of motherhood, and fearing the consequences), and by factors within the maternity context itself (such as HCPs interpersonal skills, continuity of care and the provision of PMH information). Whilst these findings are consistent with research that has identified multi-level barriers and facilitators to women's access of PMH care more broadly (Webb et al., 2023, 2024), this study adds knowledge regarding perinatal suicidality specifically.

For pregnant and postnatal women there is a conflicting and nuanced interplay between the social stigma of suicidality and dominant expectations of what motherhood should look like. Women described how this tension created feelings of guilt and shame, which led them to believe they were failing in their role, both in terms of their own inner-

voice and the perceived judgement from others including HCPs. Whilst this finding is in line with previous research (Biggs et al., 2023; Praetorius et al., 2020; Reid et al., 2022b) women further talked about the impact this had on their help-seeking behaviours, and particularly their fears regarding the consequences of disclosure in maternity settings. Many women said that they would struggle to answer suicide-related questions honestly because they believed their baby would be taken away. Such fears have been reported in other studies examining barriers to PMH care and disclosure (e.g., Forder et al., 2020; Webb et al., 2023), but this fear appeared to be amplified in relation to discussing suicidality. It is therefore important for HCPs to approach conversations about suicide in a sensitive manner which does not unwittingly reinforce unconscious biases, but instead positively reframes women's perceptions of motherhood and addresses their disclosure concerns by focusing on available support. Likewise, given that women reported a lack or absence of PMH and suicidality information during their pregnancies and post-birth care, many felt unable to make informed decisions about discussing distressing thoughts and emotions because they were unaware of the possible symptoms, outcomes, and services available should they require support. There is a need for appropriate and proportionate PMH information to be made available from the earliest opportunity. It would also be helpful for HCPs to signpost women to peer support services as this was identified as an important facilitator for improving help-seeking behaviours.

Women who did attempt to engage with HCPs about their mental health often felt that their experiences were minimised or overlooked whilst HCPs disproportionately focussed attention on the baby's care, which is consistent with previous research (De Backer et al., 2024). Women reported that mental health and/or suicidality questions were rushed through (if asked at all) which made them feel dismissed and disinclined to speak further about their feelings. Evidence also suggests that HCPs may negatively frame suicide-related questions to

prompt a *no* response and/or use closed questions that inhibit further discussion (Ford et al., 2021). Such approaches are unhelpful for eliciting authentic or meaningful responses, so it is important for HCPs to ask about suicidality in a way that allows women to share their individual experiences and to explore protective factors. Similarly, women talked about the need to build a strong and trusting rapport with HCPs to facilitate disclosure. However, many described their experiences as uncomfortable because HCPs did not appear to have the experience, training, and/or interpersonal skills to hold difficult conversations, nor did the women generally see the same HCPs at their appointments. This meant that the opportunity to develop a trusting relationship was not presented. Previous research examining perinatal women's experiences of depression screening and PMH care has reported similar findings (Hsieh et al., Megnin-Viggars et al., 2015). Likewise, research from Australia found that some midwives and maternal and child nurses do not feel comfortable assessing suicide risk with perinatal women (Lau et al., 2015; McCauley et al., 2012), and other HCPs are fearful about engaging in suicide-related conversations in case it produces iatrogenic effects (Quinnett, 2019). This underscores the need for HCP-related and interpersonal barriers for identifying perinatal suicidality to be addressed. Whilst systemic factors such as lack of resources, competing demands, financial constraints, and staff shortages heavily impact upon continuity and women's maternity care experiences, there is a need for maternity HCPs to receive more mental health, suicidality, and communication skills training to build their confidence, knowledge, and ability to create a safe and welcoming environment for women to share suicidal ideation and/or behaviours.

Whilst women felt that it was important and necessary for HCPs to ask about suicidality at regular intervals throughout the perinatal period, their preference for how this might occur differed, and their receptiveness was heavily influenced by the factors outlined above. Most women saw value in being asked suicide-related items alongside current

depression and anxiety questions and they generally felt that answering a brief screening questionnaire was an appropriate initial step for identifying those who may require further assessment and support. Screening measures do offer a pragmatic solution in busy maternity care services; however, HCPs also need to be aware of the limitations of screening tools. For example, the content of suicide-related items might not be acceptable to perinatal women (Dudeney et al., 2024a), and screening measures should not be used to diagnosis or to predict suicide risk. Furthermore, women said that it was important for HCPs to sensitively frame and normalise why mental health and suicide-related questions are being asked to help facilitate disclosure, and it was clear that women wanted more choice and agency in how questions might be administered to allow for individual differences. Some women felt more comfortable completing these questions on their own prior to an appointment because it allowed for privacy and time to reflect on their answers without feeling "put on the spot", whereas others preferred to be asked face-to-face in a conversational style. Previous research similarly found little consensus regarding pregnant women's preferences for mental health screening (Bayrampour et al., 2017), which suggests that having options may help to overcome some barriers to disclosure. It is important that all approaches give women the opportunity to discuss PMH and/or suicidality in-person, should they wish.

5.5.1 Strengths, limitations, and future research

Recruiting pregnant and postnatal women for suicide-related research is challenging. A strength of this study was the sample size and inclusion of women from across the UK. However, most participants were White British and had attained a bachelor's degree or above. Future research should seek to recruit perinatal women from more diverse ethnic and minority groups as their views may differ to those reflected here. Evidence suggests that women from these backgrounds encounter greater inequalities and unique barriers to

accessing PMH care (Pilav et al., 2022), so it is important that their experiences and views are explored. It would also be useful to look at the perceptions of perinatal women in treatment settings, women with neurodiversity, birthing persons who do not identify as women, and HCPs who work in maternity care to further inform approaches for identifying those who may require additional support. Lastly, some women who participated in this study were pregnant or had a young baby during the COVID-19 pandemic and UK lockdowns. Given the pressure on the UK National Health Service at that time, it is possible that their care was negatively affected, which may have also influenced their views and experiences.

5.5.2 Conclusions

Pregnant and postnatal women in this study highlighted complex barriers and facilitators that may influence their willingness and capacity for disclosing suicidality in maternity care settings. HCPs need to consider these factors when asking perinatal women about suicide to prevent barriers from being reinforced, and to create a safer environment for these conversations to take place. Appropriate approaches for discussing suicidality in maternity contexts need to be developed that offer women choice in how suicide-related questions are administered. Such approaches may help to identify those who require further assessment and support sooner. It is also important for HCPs to provide proportionate information regarding PMH and suicidality from the earliest opportunity.

6 Attitudes, experiences, and implications of asking about suicide during the perinatal period: A qualitative study with maternity healthcare practitioners (Article 4)

Dudeney, E., Meades, R., Ayers, S., & McCabe, R. (2025). Attitudes, experiences, and implications of asking about suicide during the perinatal period: A qualitative study with maternity healthcare practitioners. *Midwifery, 142.*
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6.1 Abstract

Background: Suicide is a leading cause of maternal death. Maternity healthcare practitioners (HCPs) are uniquely positioned to identify perinatal mental health (PMH) problems and/or suicidality. Research exploring HCPs attitudes towards suicide-related screening items and their experiences of asking about perinatal suicidality is limited.

Objectives: (i) to explore HCPs attitudes towards 16 suicide-related screening items; and (ii) to explore HCPs broader views, experiences and implications of discussing suicide with perinatal women in maternity care settings.

Methods: Fifteen semi-structured interviews were conducted with maternity HCPs. The sample included midwives, health visitors, general practitioners, and specialist PMH practitioners working in the United Kingdom (UK). Inductive thematic analysis was used to explore the data and identify themes.

Results: Most HCPs felt uncomfortable with, disliked, or found half of the suicide-related items unhelpful. Reasons included use of ambiguous or emotive terms. HCPs preferred not to use the word “suicide” with pregnant or postnatal women. In the thematic analysis, four themes were identified: (i) Approaches for discussing and identifying PMH problems and suicidality; (ii) Competing demands and continuity of carer; (iii) PMH and suicidality training and support; and (iv) Availability of PMH services and referral pathways. These factors affected HCPs capacity, willingness, and confidence to ask women suicide-related questions.

Conclusions: HCPs need targeted PMH and suicidality training and support in maternity care contexts to enable them to feel more equipped, comfortable, and available to have conversations with women about PMH and suicide. Timely detection and intervention may help to improve care for women experiencing perinatal suicidality.

Keywords: Suicide; Perinatal; Pregnancy; Postnatal; Healthcare Practitioners; Screening

6.2 Introduction

Perinatal mental health (PMH) is a global public health concern (World Health Organisation [WHO], 2022). PMH problems affect up to one fifth of pregnant or postnatal women and can lead to significant adverse consequences for both mother and child (Bauer et al., 2014; Bayrampour et al., 2017; Howard & Khalifeh, 2020). Common PMH problems include anxiety, depression and post-traumatic stress disorder. Some women also experience severe complications such as postpartum psychosis, and/or suicidality (Howard & Khalifeh, 2020, Orsolini et al., 2016). A recent report by the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity (MBRRACE-UK) (Knight et al., 2023) highlighted that between 2019 and 2021, mental health factors accounted for almost 40% of all maternal deaths between six-weeks to one-year post birth. This underscores the need for continued prioritisation and expansion in equitable specialist PMH services to ensure that women who require additional support receive appropriate and timely care. Tragically, suicide is a leading cause of maternal mortality in the UK and in other high-income countries (Diguisto et al., 2022; Grigoriadis et al., 2017; Howard & Khalifeh, 2020; Knight et al., 2023; Trost et al., 2022). The contribution of suicide to maternal deaths in low-income and middle-income countries is difficult to determine due to differences in reporting systems and classifications (Simmons et al., 2024). However, the pooled prevalence of global perinatal suicide attempts is estimated to be 680 per 100,000 in pregnancy, and 210 per 100,000 in the first postnatal year (Rao et al., 2021). Many more women will also experience suicidal ideation during this time. Previous suicide attempts and suicidal ideation are known risk factors for future fatal acts (Orsolini et al., 2016). Hence, it is imperative that perinatal suicidality is identified at the earliest opportunity to improve outcomes for women and their babies.

Maternity healthcare practitioners (HCPs) are in a pivotal position for identifying PMH problems in pregnant and/or postnatal women. However, evidence suggests that

approximately 50% of women experiencing PMH problems and/or suicidality go undetected (Bauer et al., 2014; National Childbirth Trust [NCT], 2017). This may be partially explained by differences in PMH screening recommendations, and there remains debate regarding the benefits, risks and viability of implementing universal PMH screening into maternity care. Whilst routine screening for common PMH problems offers the opportunity for early identification, intervention and treatment, arguments against this approach include: (i) over-detection of PMH problems (e.g., false positives); (ii) effectiveness, accuracy and/or acceptability of screening measures; (iii) service level capacity (e.g., lack of resources, funding); (iv) adequate referral pathways and access to specialist PMH services; and (v) potential harm to women (e.g., social stigma, increased anxiety/psychological distress) (Milgrom & Gemmill, 2015; Solutions for Public Health, 2019). Likewise, research shows that some HCPs may be hesitant or avoid using PMH screening measures because they are unsure of their purpose, how to administer them and/or interpret the results (Pope et al., 2023), or they may feel uncomfortable asking women PMH questions (Buist et al., 2006).

Evidence also suggests that screening barriers are particularly heightened when identifying perinatal suicidality and/or assessing suicide risk. Both McCauley et al. (2012) and Lau et al. (2015) found that midwives and maternal and child health nurses were uncomfortable assessing perinatal suicide risk and/or coping with women who felt suicidal, and Holland (2018) suggested that maternity HCP's attitudes towards suicide prevention may influence their willingness to engage in suicide-related conversations. Similarly, wider research on suicide screening and assessment has found that HCPs may negatively frame suicide-related questions and/or use closed questions (e.g., yes/no) to prompt a non-suicidal response (Ford et al., 2021; McCabe et al., 2017, 2023), and some HCPs fear asking about suicide in case they put suicidal ideas in someone's head (Quinnett, 2019; Bajaj et al., 2008). Fedorowicz et al. (2023) also highlighted that there is great variation in if, how, and when

suicide risk assessments take place in primary and secondary care, which is frequently due to time pressures and lack of training. Whilst maternity HCPs often recognise the importance of asking women about PMH and suicidality, many feel ill-equipped in administering screening measures and/or initiating conversations around PMH and suicidality due to a lack of PMH and suicide training and support (Bayrampour et al., 2018; Holland et al., 2018; Lau et al., 2015; McCauley et al., 2012). This may affect HCPs comfort, confidence, attitudes, skills and knowledge concerning PMH and suicidality, and creates a significant barrier for identifying women who require additional support. Further barriers to PMH screening in maternity settings include: (i) time constraints; (ii) unclear referral pathways; (iii) assumptions and stigma; and (iv) perceptions of professional role and scope (Bayrampour et al., 2018).

Previous qualitative research has looked at PMH professionals' experiences and perceptions of factors that may be linked to and/or affect women's suicidal ideation and behaviours (Reid et al., 2024). However, there is limited research exploring HCPs attitudes towards different suicide-related screening items, or their general views regarding the barriers, facilitators and implications of asking perinatal women about suicide in maternity care contexts. This is important for developing appropriate approaches for discussing and identifying perinatal suicidality, and for understanding how best to support maternity HCPs in practice. Likewise, the acceptability of a healthcare intervention, in this case the identification and/or assessment of perinatal suicidality, to both service user and practitioner is a necessary condition of that intervention being successful. For the practitioner, if the assessment has low acceptability, it may not be implemented or asked in the way intended by those who designed and validated the measure, which may impact its effectiveness (Proctor et al., 2009; Sekhon et al., 2017). This study therefore sought to: (i) to explore HCPs attitudes towards 16 suicide-related screening items that have previously been used and/or validated in

perinatal populations; and (ii) to explore HCPs broader views, experiences and implications of discussing suicide with women in maternity care settings.

6.3 Participants, ethics, and methods

6.3.1 Ethics

Research ethics approval was obtained through the School of Health and Psychological Sciences Research and Ethics Committee at City, University of London (reference number: ETH2122-0828). Informed consent was provided by all participants before their interview.

6.3.2 Design

This was a qualitative interview study that used structured and semi-structured interview techniques. A pragmatic approach was taken to understand HCPs perspectives of the topic and generate meaningful knowledge that may help to inform and address their needs in real-world settings.

6.3.3 Participants, recruitment, and data collection

Participants were HCPs who currently (or previously) worked with pregnant or postnatal women, aged 18 or over, living in the UK, and able to speak and understand English. Sample size was guided by the Information Power approach (Malterud et al., 2016) which offers a pragmatic alternative to saturation and is suitable for qualitative research that explores complex phenomena. The final sample comprised 15 HCPs.

Recruitment and interviews took place between June 2022 and March 2023. The study was advertised on social media (Twitter and LinkedIn). Most HCPs were recruited via social media (n = 11), and four through word of mouth. Interested participants contacted

Elizabeth Dudeney directly and were then provided with an information pack to enable an informed decision about their participation. After obtaining consent, participants were invited to take part in a one-to-one interview with Elizabeth Dudeney, either online or via the telephone. Twelve interviews took place virtually using Microsoft Teams or Zoom, and the remaining three were telephone interviews. Interviews lasted between 56-123 minutes (mean 82 minutes), were audio-recorded, transcribed verbatim and deidentified.

An interview schedule was created by Elizabeth Dudeney and Rose Meades to explore topics relevant to HCPs attitudes and experiences of screening for PMH and suicidality, and their views regarding the implications of discussing suicide in maternity care contexts (see Appendix G). The interview schedule comprised two parts. Firstly, participants were asked to read out 16 suicide-related items and to tell the researcher whether they would feel comfortable administering each item with perinatal women, and/or whether they liked the item/thought it had utility for identifying women who may be experiencing suicidal ideation and/or behaviours. Participants were also asked to provide reasons. These items were chosen because they have previously been validated and/or administered in perinatal populations (Dudeney et al., 2023), and the content validity and acceptability of the items had also been examined with pregnant and postnatal women (Dudeney et al., 2024a). It is therefore important to explore HCPs attitudes towards these items to understand how appropriate and/or useful they are from their perspective. A descriptive summary of included items/measures is presented in Table 6.1.

The second part of the interview was semi-structured and explored HCPs experiences and perspectives of discussing suicide with perinatal women, including potential barriers, facilitators, and implications.

Table 6.1 Descriptive summary of measures

Measure, item number	Item content	Response options [scoring]
Beck Depression Inventory (BDI), item-9*	"I don't have any thoughts of killing myself", "I have thoughts of killing myself, but I would not carry them out", "I would like to kill myself", "I would kill myself if I had the chance"	Choose one of the statement options [0 to 3]
Edinburgh Postnatal Depression Scale (EPDS), item-10*	"The thought of harming myself has occurred to me"	"Never" [0], "hardly ever" [1], "sometimes" [2], "yes, quite often" [3]
Inventory of Depression and Anxiety Symptoms (IDAS), item-7*	"I had thoughts of suicide"	"Not at all" [1], "a little bit" [2], "moderately" [3], "quite a bit" [4], "extremely" [5]
Inventory of Depression and Anxiety Symptoms (IDAS), item-9*	"I hurt myself purposely"	"Not at all" [1], "a little bit" [2], "moderately" [3], "quite a bit" [4], "extremely" [5]
Inventory of Depression and Anxiety Symptoms (IDAS), item-14*	"I thought about my own death"	"Not at all" [1], "a little bit" [2], "moderately" [3], "quite a bit" [4], "extremely" [5]
Inventory of Depression and Anxiety Symptoms (IDAS), item-15*	"I thought about hurting myself"	"Not at all" [1], "a little bit" [2], "moderately" [3], "quite a bit" [4], "extremely" [5]
Inventory of Depression and Anxiety Symptoms (IDAS), item-41*	"I cut or burned myself on purpose"	"Not at all" [1], "a little bit" [2], "moderately" [3], "quite a bit" [4], "extremely" [5]
Inventory of Depression and Anxiety Symptoms (IDAS), item-43*	"I thought that the world would be better off without me"	"Not at all" [1], "a little bit" [2], "moderately" [3], "quite a bit" [4], "extremely" [5]
Patient Health Questionnaire-9 (PHQ-9), item-9*	"Have you had thoughts that you would be better off dead, or of hurting yourself in some way?"	"Not at all" [0], "several days" [1], "more than half the days" [2], "nearly every day" [3]
Postpartum Depression Screening Scale (PDSS), item-7*	"I started thinking that I would be better off dead"	"Strongly disagree" [1], "disagree" [2], "neither disagree nor agree" [3], "agree" [4], "strongly agree" [5]
Postpartum Depression Screening Scale (PDSS), item-14*	"I've thought that death seemed like the only way out of this living nightmare"	"Strongly disagree" [1], "disagree" [2], "neither disagree nor agree" [3], "agree" [4], "strongly agree" [5]
Postpartum Depression Screening Scale (PDSS), item-21*	"I wanted to hurt myself"	"Strongly disagree" [1], "disagree" [2], "neither disagree nor agree" [3], "agree" [4], "strongly agree" [5]
Postpartum Depression Screening Scale (PDSS), item-28*	"I felt that my baby would be better off without me"	"Strongly disagree" [1], "disagree" [2], "neither disagree nor agree" [3], "agree" [4], "strongly agree" [5]
Postpartum Depression Screening Scale (PDSS), item-35*	"I just wanted to leave this world"	"Strongly disagree" [1], "disagree" [2], "neither disagree nor agree" [3], "agree" [4], "strongly agree" [5]

Self-Reporting Questionnaire-20 (SRQ-20), item-17	“Has the thought of ending your life been on your mind?”	Yes/No [1/0]
Ultra-short Maternal Mental Health Screen (Ultra-Short), item-4	“Has the thought of committing suicide often occurred to you?”	Yes/No [1/0]

Notes: * measure has been validated in perinatal populations.
Measures: Beck Depression Inventory (BDI) (Beck et al., 1961); Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987); Inventory of Depression and Anxiety Symptoms (IDAS) (Watson et al., 2007); Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001); Postpartum Depression Screening Scale (PDSS) (Beck and Gable, 2000); Self-Reporting Questionnaire-20 (SRQ-20) (Harding et al., 1980); Ultra-Short Maternal Mental Health Screen (Ultra-Short) (van Heyningen et al., 2019).

6.3.4 Data analysis

All deidentified transcripts were imported into NVivo 14 (Lumivero, 2023) for analysis. Data were analysed using two approaches. Firstly, a coding framework was developed to examine HCPs attitudes towards the suicide-related items. Each transcript was coded using the following procedure: (i) data concerning the first item (e.g., PHQ-9, item-9) was coded to a corresponding heading (e.g., PHQ-9, item-9); and (ii) codes were then applied to indicate whether the participant said they were comfortable (or liked and/or thought the item was useful), were uncomfortable (or disliked and/or thought the item was not useful), or were neutral towards the item (or did not provide a clear response), including their reasons. This process was followed for each item across all transcripts. Data were then quantified and extracted into Excel, per item and per participant.

The second analytic stage involved identifying themes across the dataset using Thematic Analysis (Braun & Clarke, 2006, 2021). Based on the research questions, and following familiarisation with the dataset, Elizabeth Dudeney coded each transcript line-by-line to identify concepts that appeared important and/or meaningful. Once all transcripts had been coded, themes and subthemes were developed through an iterative process of clustering codes that reflected patterns across the dataset. Elizabeth Dudeney and Rose Meades reviewed and refined the themes regularly to ensure accuracy, coherence, and relevance to the research questions. Confirmatory coding was also independently conducted for 20% of the transcripts by a PhD student in health psychology. Any inconsistencies were discussed and revised, and all authors agreed upon the final themes. Reporting follows the Standards for Reporting Qualitative Research (SRQR) (O'Brian et al., 2014).

6.3.5 Researcher reflexivity

The authors considered their experience, positioning, and influence upon the data collection, analysis, and write-up. Elizabeth Dudeney is a female doctoral researcher with experience of conducting interviews on sensitive topics and has completed suicide intervention skills training. This helped to create a safe environment for participants to share their thoughts and experiences and fostered a mindful approach towards each interview without imposing personal opinions. Elizabeth Dudeney does not have a clinical background in maternity care which also helped to enhance neutrality in the data collection and analytic phases of the research. Rose Meades and Susan Ayers both have expertise in PMH and measurement research, and Rose McCabe has expertise in professional-patient communication in mental health care research, and communication about suicidality and/or self-harm.

6.4 Results

6.4.1 Sample characteristics

Fifteen HCPs participated: 10 midwives (including specialist PMH and community midwives), three general practitioners, one health visitor, and one community PMH nurse. Participants' ages ranged from 26 to 56 years (mean 40.86). Twelve HCPs were White British, and 14 spoke English as a first language. The number of years that HCPs had worked with perinatal women ranged from 3 to 21 years (mean 10.06). Sociodemographic information is presented in Table 6.2.

Table 6.2 Sample characteristics (*n* = 15)

Sociodemographic variable	*M (range)* or *n* (%)
Age	40.86 (26 - 56 years)
English as first language	
Yes	14 (93%)
No	1 (7%)
Currently working with perinatal women	
Yes	11 (73%)
No*	4 (27%)
Number of years worked with perinatal women	10.06 (3 – 21 years)
Profession	
Midwife	4 (27%)
Specialist perinatal mental health midwife	4 (27%)
General practitioner (GP)	3 (20%)
Health visitor	1 (7%)
Midwife and maternity nurse	1 (7%)
Community midwife	1 (7%)
Perinatal community mental health nurse	1 (7%)
Cultural background	
(White) English/Welsh/Scottish/Northern Irish/British	12 (79%)
Any other White background	1 (7%)
(Mixed/multiple ethnic groups) White and Asian	1 (7%)
(Mixed/multiple ethnic groups) White and Black Caribbean	1 (7%)

* These participants had previously worked with perinatal women in a maternity care context

6.4.2 Overview of findings

The number of HCPs who felt comfortable, uncomfortable, or neutral (etc.) towards each of the suicide-related items, and key reasons are presented in Table 6.3. A narrative overview of these findings is also provided in the following section ('HCPs attitudes towards suicide-related items').

All themes and subthemes are presented in Figure 6.1. Four themes were identified: (i) Approaches for discussing and identifying PMH problems and suicidality; (ii) Competing demands and continuity of carer; (iii) PMH and suicidality training and support; and (iv) Availability of PMH services and referral pathways. Themes and subthemes are outlined with illustrative quotes.

Table 6.3 HCPs evaluation of suicide-related items (*n* = 15)

Measure, item number, and content	Comfortable, like, and/or useful item	Uncomfortable, dislike, and/or item not useful	Neutral, no response, and/or additional comments
BDI, item-9†* *"Please choose from the following: I don't have any thoughts of killing myself", "I have thoughts of killing myself, but I would not carry them out", "I would like to kill myself", "I would kill myself if I had the chance"*	*n* = 5 Potential utility for differentiating thoughts, intent, and actions for someone who has already disclosed suicidality. Not for screening. Helpful for normalising passive suicidal ideation without intent. Plain, clear, and direct wording.	***n* = 8** Too much information in one item, might be confusing and especially for women who don't speak English as a first language. The word 'kill' feels very uncomfortable. 'I would *like* to kill myself' is an inappropriate statement. The last two statements are hard to differentiate. Not appropriate for maternity HCPs to administer this type of question, should only be asked by a mental health professional.	*n* = 2 Would need to ask this question in a safe environment, with a clear referral pathway in place.
EPDS, item-10* *"The thought of harming myself has occurred to me"*	***n* = 13** Most maternity HCPs are familiar with this questionnaire. Gentler way to approach the topic than asking about suicide specifically. Useful as a conversation starter, but further questions would be required.	*n* = 2 'Harming' is a very broad, vague term and would need explanation. Some maternity HCPs without mental health knowledge and/or training may not feel comfortable administering this question. Wouldn't ask this question unless there was a clear referral pathway. Might be better as a question rather than a statement. Would interpret 'harming myself' as non-suicidal self-harm, so may not be useful for identifying suicidality.	*n* = 0 N/A
IDAS, item-7* *"I had thoughts of suicide"*	***n* = 9** Clear, unambiguous, and direct item.	*n* = 3 Wouldn't use the word 'suicide' with perinatal women. Issues with the word 'suicide' in terms of translation and cultural differences. Wouldn't feel comfortable administering this item unless there was a clear referral pathway and had received mental health training.	*n* = 3 Would need to ask further questions to ascertain intent and risk. Important to preface this item with a sensitive approach and focus on support.
IDAS, item-9†*	*n* = 2	***n* = 12**	*n* = 1

"I hurt myself purposely"	Clear and direct item.	The word 'purposely' is quite accusatory and may infer judgement and/or blame. May create an unhelpful power barrier and impact rapport building. Content is blunt and confronting, may not facilitate an honest response. Self-harm related, so may not be useful for identifying suicidality.	Would need to ask further questions to explore methods and prior history.
IDAS, item-14†* *"I thought about my own death"*	*n* = 1 May have some utility for starting a conversation.	***n* = 14** Too vague, doesn't tell you anything about suicidality. Potentially distressing item, uncomfortable with the word 'death'.	*n* = 0 N/A
IDAS, item-15* *"I thought about hurting myself"*	***n* = 9** Reasonable and clear item. Asking about 'thoughts' is less confronting than behaviours. No blame or negative connotations in the item content.	*n* = 2 Self-harm related so may not be useful for identifying suicidality.	*n* = 4 Would need to ask further questions (e.g., 'did/have you hurt yourself').
IDAS, item-41†* *"I cut or burned myself on purpose"*	*n* = 2 Useful for capturing the most common harming behaviours.	***n* = 13** Not relevant for identifying suicidality, self-harm specific. Doesn't capture all self-harm methods, which is unhelpful and dismissive. May minimise women's harming behaviours if they do not cut or burn themselves, and/or women may think their form of 'harming' is OK because it wasn't included in the question. Women may feel that they need to adopt these types of harming behaviours to receive any help. Could evoke intrusive thoughts. The words 'on purpose' are quite accusatory and may infer blame and/or judgement.	*n* = 0 N/A
IDAS, item-43†* *"I thought that the world would be better off without me"*	*n* = 4 May have some utility for starting a conversation.	***n* = 10**	*n* = 1

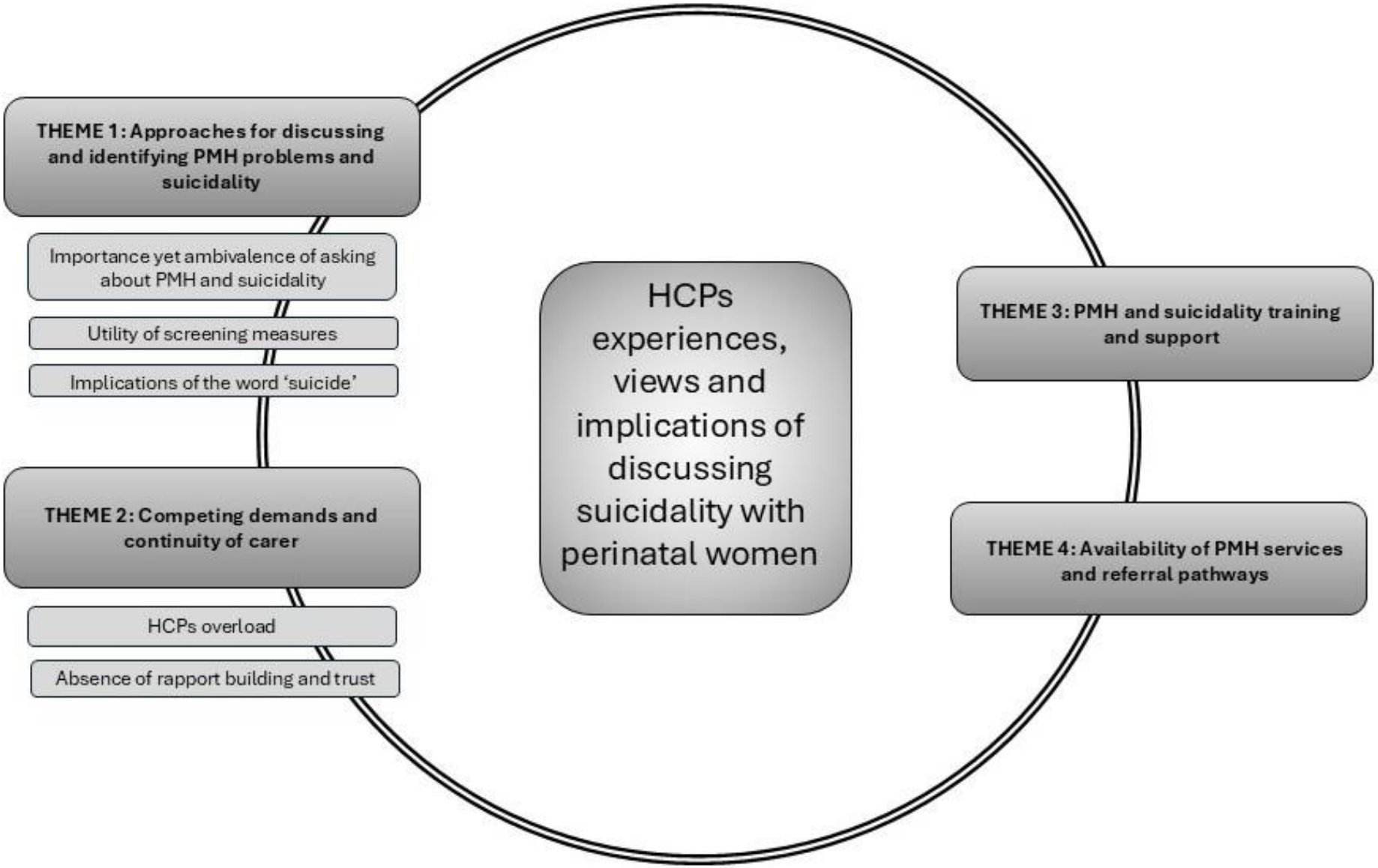
		Non-validating item, too vague, confusing, and ambiguous. Wouldn't necessarily indicate any suicidality, appears more self-esteem related. Some HCPs may go straight to review/referral if the item is endorsed which may not be necessary. Women may express suicidality in this way themselves, but the item is not clinically useful for screening. Puts words in a woman's mouth that might not be her experience. Women who do not speak English as a first language may not understand this item.	The term 'world' could be changed to 'family or friends'.
PHQ-9, item-9* *"Have you had thoughts that you would be better off dead, or of hurting yourself in some way?"*	***n* = 8** Useful as an initial screening question. Most HCPs are familiar with this questionnaire.	*n* = 6 Too much information in one item which is confusing. Compound question isn't helpful, need to ask about suicide and self-harm separately. Women may not know how to answer, particularly those who do not speak English as a first language.	*n* = 1 The first and second part of the item should be flipped (e.g., thoughts of 'hurting' first, and then 'better off dead').
PDSS, item-7* *"I started thinking that I would be better off dead"*	***n* = 11** Direct item and clearly more suicide-related than some of the other items.	*n* = 4 Uncomfortable with the word 'dead'. Would prefer this item to be a question rather than a statement. Would require a trusting relationship and time to explore further. Doesn't differentiate between passive and active suicidality. Some HCPs would not be comfortable administering this item, and/or may change the content.	*n* = 0 N/A
PDSS, item-14†* *"I've thought that death seemed like the only way out of this living nightmare"*	*n* = 2 Compassionate item that acknowledges how someone might be feeling.	***n* = 13** Intense, emotive, and confronting item. Uncomfortable with the word 'death'. Puts words in a woman's mouth that might not be her experience.	*n* = 0 N/A

		Women who do not speak English as a first language may not understand this item. Not appropriate to use in a questionnaire.	
PDSS, item-21* *"I wanted to hurt myself"*	***n* = 11** Useful for differentiating thoughts and intent. The word 'hurt' is more all-encompassing than 'harm'. Clear and non-confrontational item.	*n* = 2 The word 'wanted' is not appropriate, women may feel defensive about this. Prefer items that ask about 'thoughts'.	*n* = 2 'Hurt myself' likely to be interpreted as non-suicidal self-harm, so may not be useful for identifying suicidality. Would need to ask further questions (e.g., 'did/have you hurt yourself').
PDSS, item-28* *"I felt that my baby would be better off without me"*	***n* = 11** May have some utility for starting a broader conversation about how a woman is coping. Important item and gives women permission to express how they are feeling. May be useful as part of a questionnaire that women complete themselves.	*n* = 4 Women may express this themselves, but not appropriate for HCPs to ask this directly. This item might exacerbate women's fear around child protection services involvement, and/or the wider social expectations of motherhood. Too vague and wouldn't necessarily indicate any suicidality. Some HCPs might not feel comfortable with this item as it could evoke an emotional response.	*n* = 0 N/A
PDSS, item-35†* *"I just wanted to leave this world"*	*n* = 1 Gentler way to approach the topic than asking about suicide specifically.	***n* = 12** Vague, ambiguous, and wouldn't necessarily indicate any suicidality. Not clinically useful as a screening item for suicidality. Women who do not speak English as a first language may not understand this item. Uncomfortable with the word 'wanted'.	*n* = 2 May be useful as part of a questionnaire that women complete themselves. Might be better as a question rather than a statement.
SRQ-20, item-17 *"Has the thought of ending your life been on your mind?"*	***n* = 7** Gentler and more explanatory way to approach the topic than using the term 'suicide' directly. 'Ending your life' feels more comfortable than 'suicide' or 'death, dead or kill'. 'Ending your life' may be easier to understand culturally than suicide.	*n* = 5 Remove 'on your mind' as it is unclear and unnecessary. Women who do not speak English as a first language may not understand 'on your mind'.	*n* = 3 N/A
Ultra-Short, item-4†	*n* = 1	***n* = 14**	*n* = 0

"Has the thought of committing suicide often occurred to you?"	N/A	The word 'committed' is not appropriate to use. Wouldn't use the word 'suicide' with perinatal women. Remove the word 'often' as it is not useful, and you may miss people. Doesn't tell you anything about suicidal intent.	N/A

Notes: (i) reasons given are across participants (e.g., why comfortable with an item or not), and are not individual quotes; (ii) **bold** indicates the highest number of participants per item; (iii) † indicates that most participants were uncomfortable with, disliked and/or saw little utility in the item; (iv) *N/A* = no specific reasons were identified; (v)* the item/measure has been validated in perinatal populations.
Measures: Beck Depression Inventory (BDI) (Beck et al., 1961); Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987); Inventory of Depression and Anxiety Symptoms (IDAS) (Watson et al., 2007); Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001); Postpartum Depression Screening Scale (PDSS) (Beck and Gable, 2000); Self-Reporting Questionnaire-20 (SRQ-20) (Harding et al., 1980); Ultra-Short Maternal Mental Health Screen (Ultra-Short) (van Heyningen et al., 2019).

Figure 6.1 Overview of themes and subthemes



6.4.2.1 HCPs attitudes towards suicide-related items

Of the sixteen suicide-related items assessed, most HCPs said they were uncomfortable with, disliked and/or thought that half of the items were unhelpful for identifying perinatal suicidality. See Table 6.3 for HCPs evaluation of items, and Table 6.1 for descriptive summary of items/measures. Nearly all HCPs had negative attitudes towards items that used ambiguous terms for identifying suicidality (e.g., "I thought about my own death", IDAS, item-14), emotive phrases (e.g., "I've thought that death seemed like the only way out of this living nightmare", PDSS, item-14) or confronting and judgemental language (e.g., "I hurt myself purposely", IDAS, item-9). HCPs said that these items were either inappropriate, confusing and/or had little utility. HCPs reported mixed attitudes towards PHQ-9, item-9 ("have you had thoughts that you would be better off dead, or of hurting yourself in some way?") because it encompasses both suicidal and non-suicidal harm. Some HCPs felt that this item had utility for preliminary screening, whereas others said that suicide and self-harm should be asked about separately. HCPs were most comfortable with EPDS, item-10 ("the thought of harming myself has occurred to me"), with a caveat that "harming" requires further explanation and may not be interpreted to include suicidal thoughts and/or behaviours. Likewise, HCPs thought that PDSS, item-28 ("I felt that my baby would be better off without me") may help open up a conversation around PMH, but not necessarily suicide directly.

6.4.2.2 Theme one: Approaches for discussing and identifying PMH problems and suicidality

HCPs talked about the importance of asking women about PMH throughout pregnancy and after birth, the benefits and limitations of screening measures, and their views for the most appropriate language to use.

Importance yet ambivalence of asking about PMH and suicidality

HCPs felt that it was necessary and important to routinely discuss PMH with women at every contact and to ask about suicidality at least once in pregnancy and once postnatally to identify women who may require additional support. However, many HCPs said that in practice, there are large disparities in how frequently PMH and suicide-related questions are asked (if at all), which is a pressing issue.

> *"It is a big issue because we're making sure that physically we're ticking all the boxes and knowing everything about women, but we should be doing the same for their mental health, we know it is the number one reason for women dying, it's mind-blowing to me, so yes, we should be asking the questions". (p4)*

Reasons why HCPs may not ask women about PMH and suicidality are captured by subsequent themes. However, HCPs also reported that a lack of standardisation across maternity services may explain some disparities in how suicidality discussions are approached and/or which screening measures are administered. As one HCP explained:

> *"I think it's really important to have a specific screening question for it [suicidality], in a way that we don't currently have, and I think it does need to be direct, because if you just say 'how's your mental health, or have you felt low', you can easily miss people who are struggling". (p9)*

Utility of screening measures

Likewise, whilst HCPs generally saw value in using screening measures for the initial identification of possible PMH problems and/or suicidality, many also highlighted their limitations. A common concern was that HCPs may become reliant on the outcome of

screening measures to provide a picture of a woman's PMH, without engaging in a meaningful conversation about what the responses mean to her, which may result in cases being missed or unnecessary referrals to specialist services.

> *"The caveat for me, for all of these [suicide items] is you can't just ask the questions, you have to be prepared to have the conversation as well". (p15)*

Implications of the word "suicide"

Most HCPs stressed the importance of being clear and direct when asking women about suicidal ideation and/or behaviours. However, many thought that using the word 'suicide' was problematic. Reasons included personal discomfort, associated stigma, language translation issues, and cultural and/or religious implications. HCPs also felt that some women may not recognise or conceptualise their distressing thoughts in suicidal terms, which may affect how they respond to such questions. Nearly all HCPs expressed a preference for using the phrase "end your own life" as this felt less confronting and helped overcome some of these issues.

> *"I think there is too much stigma associated with the word 'suicide', it's almost a dirty word isn't it… I don't think I've ever had anybody discuss suicidal thoughts using that word actually because I think that word feels too loaded for most women… I can't recall a situation where I've used the word 'suicide' either, and I would actively try and avoid using it in a conversation with perinatal women". (p6)*

6.4.2.3 Theme two: Competing demands and continuity of carer

This theme concerns organisational factors that affect HCPs capacity to ask women about PMH and suicidality. HCPs talked about unrealistic expectations and overload in terms of

what can be explored during routine appointments, and the difficulty of building rapport with women due to a lack of continuity.

HCPs overload

HCPs reported burden, staff-shortages, time and competing demands as important barriers for why PMH and suicidality questions may not be asked during routine antenatal and postnatal appointments. HCPs described overwhelming pressure to complete a multitude of tasks in a minimal timeframe, which compromised their capacity and willingness to ask PMH and suicidality questions. They felt unable to meaningfully engage in such conversations, and/or manage the necessary administration associated with referrals.

> *"For your average midwife that's got 30 women to see, and she's got 10-15 minutes for each woman, how much is she really gonna wanna ask the question [?]… people don't ask because they don't want to know the answer, because once they've got that on their desk, you've got to action that, you can't not hear what that person's just told you".(p14)*

Absence of rapport building and trust

Lack of continuity of carer was highlighted as another implicating factor. HCPs talked about the difficulty of having conversations about PMH and suicidality with a stranger, from both their own and women's perspectives. HCPs felt that women were less likely to be honest about their feelings and experiences because they were unable to have a consistent relationship with one caregiver. Similarly, when continuity is present, HCPs said they felt far better equipped to spot changes in women's mood and discuss this, sometimes without the formality of administering screening questions.

"I worked under a continuity model for a period, I got to build up really good relationships with women, so I didn't have to ask them the baseline questions past a certain point because I knew them and they were comfortable to say to me 'X, Y, Z'… I now work in a busy labour ward, and for women, I think it's very difficult to open up to somebody new, and if they have to do that every single time that they encounter someone, that's difficult too". (p5)

6.4.2.4 Theme three: PMH and suicidality training and support

This theme concerns factors related to PMH and suicidality training and support for HCPs who work with perinatal women, and the implications of this for their confidence, knowledge, and ability to engage in discussions around such topics.

Many HCPs said that there was a lack of PMH and suicidality training available to practitioners working in maternity care contexts, which appeared to be a critical and central issue underpinning their narratives. HCPs talked about being ill-equipped in the necessary communication skills for holding these types of conversations and emphasised the need to provide targeted training. They suggested that a lack of training reinforced biases and assumptions regarding who might or might not be at risk of suicide, exacerbated fears that asking suicide-related may have iatrogenic effects, and created barriers for identifying women from different ethnic backgrounds. Several HCPs described feeling unsafe with the responsibility of asking women about suicide, both in terms of knowing what to do if it is endorsed and the potential impact this may have upon their own mental health.

"I as a perinatal mental health midwife have not been able to source and access suicide risk assessment training… so with my cold-hearted clinician head on, I don't want to

take responsibility for risk assessing something that I'm not trained to do, because I don't want to stand in front of the coroner and say 'well, I did this but, no I wasn't trained to do it, so therefore I got it wrong'… so I am holding the risk on that, and I don't feel safe holding it… I think a lot of clinicians sit with this constant feeling like 'I'm only ever one suicide away from my own mental breakdown', because you know, how does that impact you as a clinician when that happens, and that's a lot for people to take on". (p6)

HCPs also highlighted the need for better understanding and support in maternity care regarding the mental health wellbeing, personal experiences, and differing cultural and/or religious beliefs of practitioners, because suicide-related conversations have the potential to be highly distressing for them too.

"I'm a healthcare professional, but I'm also a human being, my colleagues are all human beings, you don't know what their lives have been, you don't know what their story is, and for some, they've had their own perinatal experiences which they haven't even come to terms with themselves... we all have different religious beliefs, we've all got different things, so there's a lot of that as well". (p12)

6.4.2.5 Theme four: Availability of PMH services and referral pathways

This theme concerns the impact of overburdened services and unclear pathways for making referrals for women who require PMH and/or suicidality support.

Many HCPs described feeling conflicted about asking PMH or suicide-related questions due to a lack of and/or limited capacity within mental health services to support women who are experiencing PMH difficulties. HCPs felt that it may do more harm to ask

women these types of questions because referrals are often rejected or there are long waiting lists for treatment, which may leave women in a more vulnerable position. HCPs said that when women open up about their feelings, not being able to offer them any support was difficult to manage emotionally. They also thought that this may leave women with a sense of unimportance, which could exacerbate their PMH problems.

> *"A massive issue is the fact that mental health services are so underfunded, so we have a perinatal mental health team and I know for a fact they won't see you unless you're kind of actively suicidal and planning to do it… the awful thing is when women say 'yes I am [feeling suicidal] and I need some help, and we go, well we can't really help you', which almost makes it worse". (p9)*

When PMH referrals are made, HCPs also expressed a need for more clarity regarding the appropriate care pathways in different maternity contexts. HCPs felt there was often uncertainty around how, where, when, and to whom referrals should be escalated, and they emphasised the importance of providing this information to all HCPs who work with perinatal women.

> *"Referral pathways need to be really clear for everybody, what gets referred, how it gets referred, and I think that every maternity unit should have a crisis pathway, which incorporates what to do if you're in the community, what to do if you're attending a home birth or what to do if you're in the hospital setting, so that when they [women] disclose a thought, you follow that pathway… we need better collaborative working and better shared learning". (p12)*

6.5 Discussion

This study explored the views, experiences and implications of discussing suicide with pregnant and postnatal women from the perspective of HCPs who currently work (or previously worked) in a maternity care context. It also explored HCPs attitudes towards 16 suicide-related screening items in terms of their comfort, like and/or the perceived utility for using these with perinatal women. Findings indicated that most HCPs felt uncomfortable (and/or disliked or did not see utility) with half of the items assessed. HCPs further reported that their capacity and willingness to ask women about suicidal ideation and/or behaviours was significantly impacted by factors such as scope within their role (e.g., burden and time constraints), the absence of continuity, a lack of PMH and suicidality training and support, insufficient PMH services, and unclear referral pathways. Previous research has identified similar HCP perceived barriers in relation to PMH more generally (e.g., Bayrampour et al., 2018). However, this study makes an important contribution to the literature concerning perinatal suicidality specifically. In the following paragraphs, the study findings are discussed, with a focus on implications for practice.

Many HCPs talked about the value of screening measures for the initial identification of PMH problems and/or suicidality (given certain conditions and limitations). However, most HCPs said they felt uncomfortable with half of the suicide-related items assessed, largely due to item content. Some HCPs also said they would not want to use the word "suicide" with perinatal women due to stigma, personal discomfort, and cultural or religious differences. This created tension between wanting to be clear and direct yet avoiding certain language. Wider suicide awareness training maintains that it is necessary to be direct and use unambiguous language when asking about suicidality to prevent any misunderstanding (e.g., LivingWorks, 2024). However, the specific nature of the perinatal period needs to be taken

into account when asking about suicide during this time because it can present unique barriers and implications for disclosure. Many HCPs said they preferred to use the phrase “end your own life” with pregnant and postnatal women. Whilst there is limited research that has examined maternity HCPs attitudes towards the content of suicide-related screening items, Dudeney et al. (2024a) found that many existing suicide-related items are unacceptable to pregnant and postnatal women in their current form. Taken together, these findings have important implications for identifying women who may be experiencing suicidality using commonly administered measures. For example, evidence suggests that HCPs may avoid asking suicide-related questions, and/or negatively frame such questions if they feel uncomfortable (Ford et al., 2021; Lau et al., 2015; McCabe et al., 2017, 2023), and the content of screening items may cause confusion, evoke fear and/or distressing emotions, or reinforce stigma, which may result in cases being missed (Dudeney et al., 2024a). It is also necessary to consider whether HCPs (particularly midwives) are best placed to conduct PMH screening within the capacity of their role. Whilst screening offers a pragmatic solution in busy maternity settings, HCPs often have little time during routine appointments to meaningfully engage in conversations about PMH and/or suicidality, and a lack of continuity of carer may create barriers to disclosure. Continuity of carer is important for developing trusting relationships between women and their caregivers and has been linked to improvements in PMH outcomes (Cibralic et al., 2023). It is imperative that approaches for identifying perinatal suicidality are developed that do not significantly increase maternity HCPs burden, and that where screening measures are used, these are appropriate and acceptable to both HCPs and women.

Lack of PMH and suicidality training underpinned HCPs concerns and hesitancy to engage in suicide-related conversations with women, which is consistent with previous research (Bayrampour et al., 2018; Holland et al., 2018; Lau et al., 2015; McCauley et al.,

2012). Many HCPs said that PMH and suicidality screening should only take place when there is capacity for meaningful and informed conversation. It was apparent that HCPs often felt ill-equipped to hold these types of conversations because they had not received the necessary training to develop skills, knowledge and confidence in this area. The absence of PMH and suicidality training for maternity HCPs has far-reaching consequences in terms of identifying women who require additional support. Implications include: (i) missed opportunities for intervention and/or specialist PMH referrals; (ii) misidentification of cases and/or unnecessary referrals; (iii) perpetuation of PMH and suicide stigma, assumptions and biases; and (iv) negative psychological impact on HCPs, and/or women. HCPs also talked about cultural and religious differences, and translation barriers for women who do not speak English as a first language. Several HCPs said that it was particularly important to understand and sensitively address ethnic disparities in PMH and suicidality, but this was frequently overlooked in practice due to lack of awareness and training. Previous research has similarly highlighted the need for PMH cultural competence training to be integrated into healthcare settings (Watson et al., 2019). It is therefore vital for PMH and suicidality training to be available to all HCPs working with perinatal women from the earliest opportunity. This may help increase HCPs confidence and willingness to discuss suicidality with women and encourage a more woman-centred approach to care.

Lastly, despite considerable investment in PMH services over the past few years (NHS England, 2016a, 2016b, 2019), there are still gaps in distribution and access, and especially in terms of service provision for women who do not meet the threshold for specialist care (Maternal Mental Health Alliance [MMHA], 2022). HCPs stressed the impact and implications of these deficits for asking perinatal women about suicidality. Key concerns related to not being able to support women who endorsed suicidal ideation or behaviours because referrals were often rejected, and/or long waiting times for non-urgent psychological

therapies. Many HCPs described feeling conflicted in wanting to identify women at risk of suicidality, but feared leaving women in a more vulnerable position if they were unable to offer any PMH care. Likewise, HCPs said that these issues were further compounded by a lack of clarity on different service pathways in maternity contexts and/or how to escalate referrals to the appropriate teams. Whilst barriers to PMH service provision and referrals have been well documented in the literature (e.g., Bayrampour et al., 2018; Webb et al., 2023), it is of particular concern that HCPs working with perinatal women feel deterred from asking about suicidality because they are unable to access timely and appropriate care. Given that suicide remains the leading cause of maternal death in many countries, there is a need for urgent prioritisation of collaborative working, integrated care, and shared learning between maternity HCPs and secondary services to improve outcomes for women. It is important to acknowledge the benefits of a multidisciplinary approach to PMH care (e.g., employing midwives and registered mental health nurses in primary maternity services) as this may help to address and overcome some of the issues discussed above. This approach is also vital for the wellbeing and safety of maternity HCPs, who are at the forefront of pregnant and postnatal women's care. As one HCP stated, *'the current system is totally broken, I mean if you want a conclusion for your work, I would say that is the conclusion' (p.6)*.

6.5.1 Strengths, limitations, and future research

Recruitment of HCPs from different professional backgrounds across the UK is a strength of this study. A range of experiences and expertise were captured, and the sample included HCPs working with both pregnant and postnatal women. However, two-thirds of participants were midwives. Whilst the authors made every effort to recruit all roles working in PMH, only one community PMH nurse and one health visitor took part. It will be important to understand the views of mental health nurses and health visitors in future research.

Furthermore, participants were not asked to disclose their gender identification. Inferences cannot be made in this regard, but it may be beneficial to explore the attitudes, experiences, and perspectives of male HCPs and HCPs who do not identify as female as their views may differ to those expressed in this research. Likewise, most participants were White British, which has implications in terms of cultural differences, religious beliefs, and attitudes towards PMH and suicidality. Evidence suggests that PMH and suicidality remains taboo, stigmatised and/or poorly understood amongst some ethnic groups and in low-and middle-income countries (Insan et al., 2022; Watson et al., 2019). It is important for future research to look at the perspectives of HCPs from more diverse cultural backgrounds as unique factors may influence their approach towards identifying and supporting women with PMH problems and/or suicidality in maternity care. Lastly, it was beyond the scope of this study to address HCPs attitudes towards the response options or mode of administering suicide-related screening items (e.g., face-to-face, complete prior to an appointment, etc.). However, these are significant issues to consider in terms of additional screening barriers for identifying women who may require support.

6.5.2 Conclusions

HCPs working in maternity contexts are in a key position to identify PMH problems including suicidality. However, HCPs face numerous barriers that affect their willingness and capacity to engage in PMH and suicide-related discussions with women. HCPs may not feel comfortable with the content of some suicide-related screening items, and it is important to take account of the pressures, burden and limitations of their role when developing appropriate approaches for identifying suicidality in these settings. PMH and suicide training and support also needs to be embedded within maternity HCPs early education and ongoing professional development. This is crucial for building the necessary knowledge, confidence

and skills to have difficult conversations with perinatal women that do not reinforce stigma or judgement, or negatively impact HCPs own mental health wellbeing. Continued investment in specialist PMH services is needed to enable HCPs to make timely referrals for women who require support, and to ensure that they can access appropriate care.

7 Questionnaire items to identify suicidality in perinatal women: A Delphi study (Article 5)

Dudeney, E., Meades, R., Ayers, S., & McCabe, R. (2025). Questionnaire items to identify suicidality in perinatal women: a Delphi study. *Archives of Suicide Research.* 1-23. https://doi.org/10.1080/13811118.2025.2509645

7.1 Abstract

Objective: Maternal suicide is a leading cause of death during pregnancy and after birth (perinatal period). Perinatal suicidality is associated with significant adverse consequences for mother and baby. It is vital that women experiencing suicidality are identified early and given access to appropriate care. Screening measures are one way to identify women requiring additional support. No self-report screening measures have been specifically designed to identify suicidality in perinatal women. This study sought to determine the content validity, acceptability, and potential clinical utility of 22 suicide-related items that have been adapted and/or developed for use with perinatal women.

Method: Two-round Delphi study. Thirty panellists with expertise and/or experience in perinatal mental health, suicidality and/or the development of measurement instruments took part. Items were rated against five dimensions, "relevance", "clarity", "acceptability", "effectiveness" and "feasibility". Consensus was determined as ≥ 70% panellists endorsing *quite* or *highly* for all dimensions. Response options were also rated on three dimensions, and qualitative feedback was explored.

Results: Ten items reached consensus ≥ 70% for all five dimensions in round-one and a further four reached consensus in round-two, totalling 14 items. Twenty-one response scales/items reached consensus ≥ 70% in both rounds. The top-ranking item for identifying suicidal ideation was "Have you had thoughts about ending your own life?". Qualitative findings highlighted key areas to be addressed. These included the implications of item content, the importance of asking perinatal women about suicidality, and the need for all pregnant and postnatal women to receive appropriate information about perinatal mental health and suicidality.

Conclusions: Specifically developed screening measures to identify perinatal suicidality are warranted. Findings from this study will help to inform the continuing development of suicidality items for measures to be used with pregnant and postnatal women in clinical and research settings.

Keywords: Suicide; Perinatal; Pregnancy; Screening; Content Validity; Delphi Methods

7.2 Introduction

Perinatal mental health (PMH) problems affect one in four women during pregnancy and/or after birth, representing a global public health concern (GOV UK, 2025; World Health Organisation [WHO], 2022). Common PMH problems include depression and anxiety, although some women experience severe difficulties such as psychosis or suicidality, which are often comorbid with other conditions (Howard & Khalifeh, 2020; Orsolini et al., 2016). Suicide is a leading cause of maternal mortality in the UK and many high-income countries (Diguisto et al., 2022; Felker et al., 2024; Grigoriadis et al., 2017; Lommerse et al., 2024; Trost et al., 2022). The incidence of maternal suicide in low- and middle-income countries is harder to determine due to differing classifications and reporting systems (Simmons et al., 2024). Evidence also suggests that the global pooled prevalence of suicide attempts during the perinatal period is 680 per 100,000 in pregnancy, and 210 per 100,000 in the first postnatal year, and many more women experience suicidal ideation (Rao et al., 2021). Suicidal ideation and previous suicide attempts are risk factors for perinatal suicide (Orsolini et al., 2016). Perinatal suicidality (which includes suicidal ideation, suicidal behaviours and/or plans, and suicide attempts) is associated with significant adverse effects upon maternal and neonatal health and obstetric outcomes (Gelaye et al., 2019; Shigemi et al., 2021; Zhong et al., 2018), child development (Martini et al., 2019; Mebrahtu et al., 2020), and mother-infant bonding and attachment (Faisal-Cury et al., 2021; Zhang et al., 2022). Identifying women experiencing suicidality during pregnancy and/or after birth is crucial for the well-being of both mother and baby. Early identification and prompt access to appropriate care may help to improve outcomes and lessen the occurrence of preventable maternal deaths and other adverse effects.

Perinatal suicidality is not routinely discussed or screened for in UK maternity care. Pregnant and postnatal women are only asked about suicidal ideation and/or behaviours if

there is a relevant context (e.g., history of suicidal and/or self-harming ideation or behaviours, self-disclosure, or if the woman is already receiving specialist care). Currently, no self-report measures have been specifically designed to identify suicidality in perinatal women. This is important because the perinatal period can present unique risk factors, barriers, and implications for the identification and disclosure of suicidality which may not be captured by a more general screening measure. When mental health concerns arise, suicidality may be identified in the context of screening for other common PMH problems, because many depression and anxiety measures include item(s) about suicidal and/or self-harming thoughts (e.g., the Edinburgh Postnatal Depression Scale, EPDS, or the Patient Health Questionnaire-9, PHQ-9) (Cox et al., 1987; Kroenke et al., 2001). However, this approach poses several issues. Whilst depression and suicidal ideation and/or behaviours often coexist, they are separate conditions. Suicidality can occur without the presence of depression and vice versa. Cases may be missed if depression screening is used as a proxy for identifying suicidal ideation (Arditi-Arbel et al., 2023; Onah et al., 2017). There are also clear limitations of using a single item to capture suicidality, which is a multifaceted phenomenon. Likewise, the content of some suicidality items that are embedded within wider measures of depression is problematic. For example, item-10 from the EPDS reads “the thought of harming myself has occurred to me”. However, this item is often used in practice and research as a positive indicator for suicidal ideation, which may or may not accurately reflect a woman’s experience. Evidence suggests that many women interpret this item as non-suicidal self-harm and not suicidal thoughts per se (Dudeney et al., 2024a). Other measures use compound items (e.g., PHQ-9, item-9, “Have you had thoughts that you would be better off dead, or of hurting yourself in some way”), and some do not differentiate between active or passive suicidality. This can lead to confusion and may result in false positive or false negative results.

Notwithstanding these issues, there may be some value in using screening measures as a first step in identifying perinatal women who are experiencing suicidal ideation and/or behaviours. Such tools need to be psychometrically robust, relevant, appropriate, and acceptable to both perinatal women and the healthcare professionals who administer them. They also need to be brief and feasible to implement into maternity services. However, it is imperative that screening measures are not used to stratify suicide risk or determine treatment outcomes. All women who indicate suicidality should undergo a comprehensive psychosocial assessment to ascertain individual needs and appropriate support. Whilst there is some qualitative research on the acceptability and content validity of tools for assessing anxiety and depression during the perinatal period (e.g., Meades et al., 2024a, 2024b; Littlewood et al., 2018; Yapp et al., 2019), less is known about measures for identifying perinatal suicidality. Dudeney et al. (2024a) conducted a study with pregnant and postnatal women to explore the acceptability of different suicide-related items using the Theoretical Framework of Acceptability (Sekhon et al., 2017). Their research indicated that many items assessed were unacceptable to perinatal women in their current form. Likewise, Dudeney et al. (2025) also explored maternity healthcare practitioners' attitudes towards different suicide-related items and found that most practitioners in their study felt uncomfortable with, disliked, or thought half of the items assessed were unhelpful. This highlights the need for new and specific tools to be developed for identifying women who may require additional support.

This study therefore sought to determine the content validity, acceptability, and potential clinical utility of 22 suicide-related items that have been adapted and/or specifically designed for use with perinatal women, using a Delphi consensus methodology. The Delphi method is a means of exploring or achieving 'consensus' on a particular topic using an iterative process of collective opinion. This approach is now widely used in health research to identify research priorities, formulate clinical guidelines and recommendations, and evaluate

and/or develop assessment tools (Jorm et al., 2015; Nasa et al., 2021; Niederberger & Renn, 2023; Shang, 2023). The findings from this study can help to inform current choices of measures for identifying suicidality in perinatal women, and they may also support the preliminary development of suicidality specific screening measures for use with pregnant and postnatal women, in both clinical and research settings.

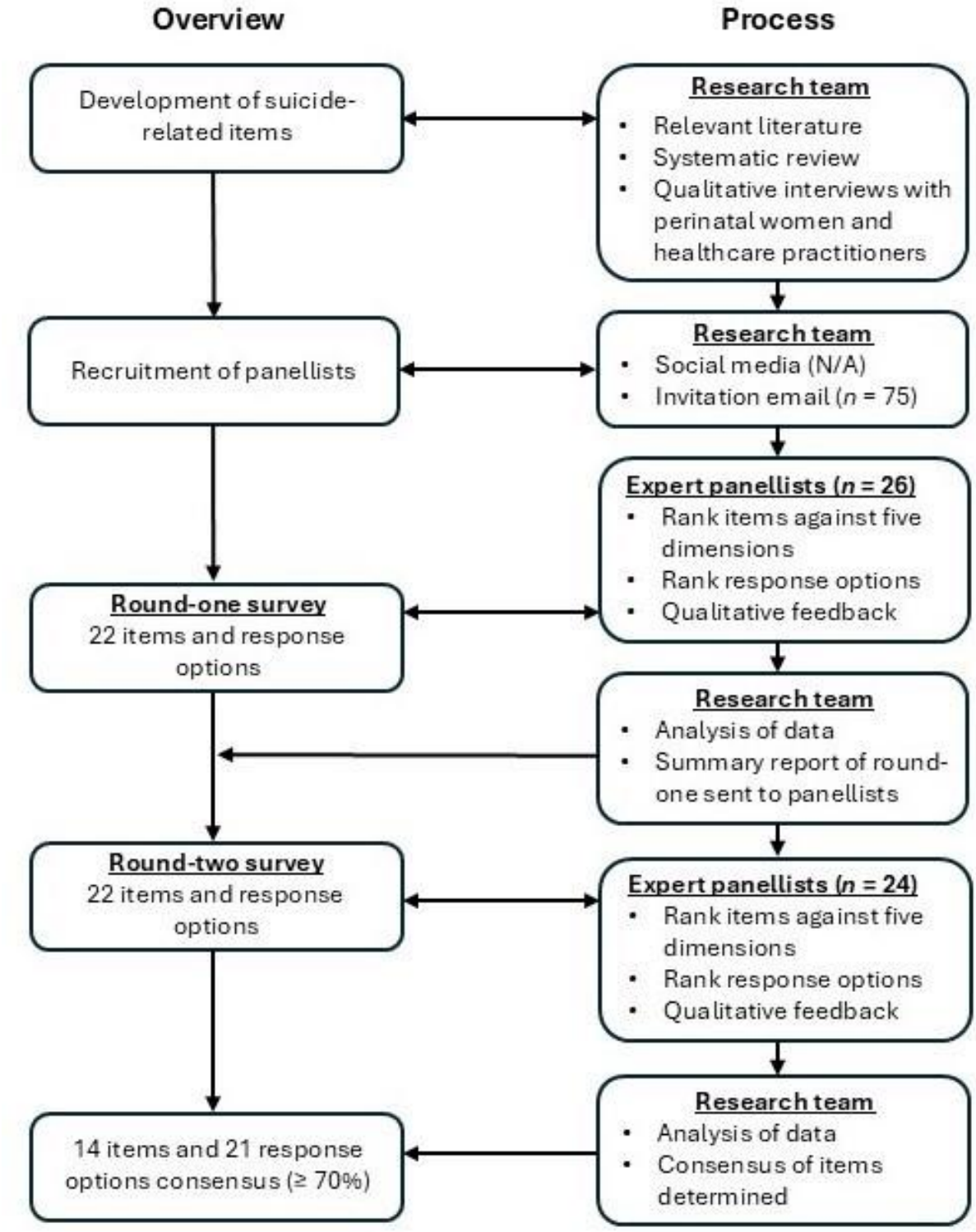
7.3 Methods

7.3.1 Design

Two-round online Delphi study to determine the content validity, acceptability, and potential clinical utility of 22 items (and response options) for identifying suicidality in perinatal women, via expert consensus.

The Delphi technique is a systematic research method that uses collective opinion to explore complex phenomena and reach consensus on a specific topic. This approach is particularly useful for addressing issues where there is limited or incomplete knowledge (Jorm, 2015). Whilst the application of Delphi methods varies, key elements of this approach include: (i) recruitment of participants with expertise in the subject area ('panellists'); (ii) iterative data collection ('rounds'); (iii) controlled feedback to panellists between rounds; and (iv) statistical analysis to ascertain levels of agreement ('consensus') (Iqbal & Pipon-Young, 2009). Definitions of consensus also vary, but it is important to establish what constitutes consensus *a priori* (Nasa et al., 2021). See Figure 7.1 for a flowchart of the Delphi process applied to this study.

Figure 7.1 Flowchart of Delphi process as applied to this study



7.3.2 Participants and recruitment

Factors that influence the number of panellists required for a Delphi study include the homogeneity or heterogeneity of the panel, complexity of the issue, research context and availability of resources (Jorm, 2015; Nasa et al., 2021). Previous Delphi studies have determined the content and face validity of measurement instruments using panels of between 11 to 28 participants (Beach et al., 2024; Bull et al., 2022; Dragostinov et al., 2022; Orth & van Wyk, 2023; Stribing et al., 2022), although attrition is also an important factor to consider. Seventy-five people were invited to participate, and the final sample comprised 26 panellists in round-one, and 24 in round-two (30 unique participants in total).

Panellists were recruited for their expertise, experience, and/or professional engagement with topics related to maternity care, PMH, psychiatry, psychology, suicide research, suicide prevention, and/or the development of mental health measurement instruments. Recruitment took place between November 2022 to March 2023 via targeted email invitations and social media. Those invited to participate via invitation were identified through professional networks, academic and research profiles, special interest groups, and third-sector organisations. Other eligibility criteria included being aged 18 or over, and able to read/understand written English. Participation was not limited to UK residence, and anonymity was preserved amongst all panellists.

7.3.3 Item generation

This study used a ‘reactive’ Delphi technique (e.g., Bull et al., 2022) whereby panellists evaluated a predefined set of suicide-related items using both quantitative ratings and qualitative feedback. The 22 items (and response options) were adapted and/or developed through relevant literature and research in this area, which included: (i) a systematic review which identified and evaluated psychometric properties of suicidality measures that have

been administered and/or validated in perinatal populations (Dudeney et al., 2023); (ii) in-depth qualitative interviews with perinatal women which explored the acceptability of suicide-related screening items (Dudeney et al., 2024a); (iii) in-depth qualitative interviews with perinatal women to explore their views and experiences of discussing suicide in maternity care settings (Dudeney et al., 2024b); and (iv) in-depth qualitative interviews with maternity healthcare practitioners to explore their attitudes towards different suicide-related items, and views about the implications of discussing suicide with pregnant and postnatal women (Dudeney et al., 2025). Of the 22 items included, nine were adapted from existing measures and the remaining were new. See Table 7.1 for a descriptive summary of items and response options.

Table 7.1 Descriptive summary of the suicide-related items assessed in this study

Item number	Item content	Item origin (e.g., adapted from an existing item or newly developed item)	Response options* and scoring
Suicidal and/or self-harm ideation screening items			
1a	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], has the thought of harming yourself occurred to you?" NOTE: This includes thoughts about causing physical or emotional harm to yourself, and/or thoughts about ending your own life.	EPDS, item-10: "The thought of harming myself has occurred to me"	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
1b	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about hurting yourself in some way?" NOTE: This includes thoughts about causing physical or emotional hurt to yourself, and/or thoughts about ending your own life.	PHQ-9, item-9: "Have you had thoughts that you would be better off dead, or of hurting yourself in some way?" IDAS, item-15: "I thought about hurting myself"	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
1c	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that your baby, friends or family would be better off without you?"	PDSS, item-28: "I felt that my baby would be better off without me"	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
1d	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about hurting yourself in some way or of not wanting to be alive?"	PHQ-9, item-9: "Have you had thoughts that you would be better off dead, or of hurting yourself in some way?"	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
1e	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts of": (1) physically or emotionally hurting yourself in some way; (2) ending your life?"	New item	No [0], Yes [1]
Suicidal ideation items			
2a	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that you don't want to be alive?"	PDSS, item-7: "I started thinking that I would be better off dead"	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
2b	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you wished you could go to sleep and not wake up?"	C-SSRS, item-1: "Have you wished you were dead or wished you could go to sleep and never wake up?"	Never [0], Sometimes [1], Quite often [2], Most of the time [3]

2c	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about suicide?"	IDAS, item-7: "I had thoughts of suicide"	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
2d	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about ending your own life?"	SRQ-20, item-17: "Has the thought of ending your life been on your mind?"	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
2e	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that you don't want to be alive, or of ending your own life?"	New item	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
2f	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate]: I haven't had thoughts about ending my own life [0]; I have had thoughts about ending my own life, but I would not carry them out [1]; I have had thoughts about ending my own life [2]"	BDI, item-9: "I don't have any thoughts of killing myself; I have thoughts of killing myself, but I would not carry them out; I would like to kill myself; I would kill myself if I had the chance"	N/A
	Suicide plan items		
3a	"Have you made plans to end your own life?"	New item	No [0], Yes [1]
3b	"Have you had thoughts about how you might end your own life?"	New item	No [0], Yes [1]
3c	"Have you told anyone that you have made plans to end your own life?"	New item	No [0], Yes [1]
	Suicidal behaviour items		
4a	"Have you made preparations to end your own life?"	New item	No [0], Yes [1]
4b	"Have you taken steps to end your own life (for example, obtaining pills or equipment)?"	New item	No [0], Yes [1]
4c	"Have you made arrangements for ending your own life (for example, getting your financial affairs in order or writing a note to loved ones)?"	New item	No [0], Yes [1]
4d	"Do you feel there is an immediate risk that you will attempt to end your own life?"	New item	No [0], Yes [1]
	Suicide attempt items		

5a	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you made any suicide attempts?"	New item	No [0], Yes [1]
5b	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you attempted to end your own life in some way?"	New item	No [0], Yes [1]
	Suicidality history items		
6a	"Prior to your most recent pregnancy, have you experienced suicidal thoughts in the past?"	New item	No [0], Yes [1]
6b	"Prior to your most recent pregnancy, have you attempted to end your own life in the past?"	New item	No [0], Yes [1]

Notes: *Likert-type response options were adapted from the EPDS.
Measures: EPDS = Edinburgh Postnatal Depression Scale (Cox et al., 1987); PHQ-9 = Patient Health Questionnaire-9 (Kroenke et al., 2001); IDAS = Inventory of Depression and Anxiety Symptoms (Watson et al., 2007); PDSS = Postpartum Depression Screening Scale (Beck and Gable, 2000); C-SSRS = Columbian-Suicide Severity Rating Scale (Posner et al., 2011); SRQ-20 = Self-reporting questionnaire-20 (Harding et al., 1980); BDI = Beck Depression Inventory (BDI).

7.3.4 Procedure

The study was approved by the School of Health and Psychological Sciences Research and Ethics Committee at City, University of London (reference number ETH2223-0074). All participants received comprehensive study information prior to each round and provided informed consent.

The round-one survey was live on Qualtrics for two-weeks in early February 2023. The 22 suicide-related items were grouped into six sections: suicidal and/or self-harm ideation screening (five items); suicidal ideation only (passive, active and/or both) (six items); suicide plans (three items); suicidal behaviours (four items); suicide attempts (two items); and suicidality history (two items). Panellists were asked to rate each item against five dimensions, "relevance", "clarity", "acceptability", "effectiveness" and "feasibility". These dimensions were chosen as important aspects of content validity and acceptability for the preliminary development of measurement instruments, and as indicators for assessing the potential clinical utility of the items in real-world settings (Swan et al., 2023; Terwee et al., 2018). Panellists were also asked to rate the item response options against three dimensions, "relevance", "clarity" and "acceptability". The dimensions of "effectiveness" and "feasibility" were not applied to the item response options in this study as these related to how effective the wording of each item might be for identifying suicidality in perinatal women, and how feasible it might be to ask the specific item in maternity care settings. A four-point Likert type scale was used for rating each dimension per item/response options. For example, *highly relevant* (score-4), *quite relevant* (score-3), *somewhat relevant* (score-2) or *not relevant* (score-1) (or *highly clear* to *not clear* etc.) (Fallon et al., 2016; Polit et al., 2007; Rodrigues et al., 2017). Panellists were also encouraged to provide qualitative feedback for each item using free-text boxes, and upon completion of the main survey, they were asked three open-ended questions related to the topic area (i.e., should all perinatal women be asked

suicide-related screening questions, when and how should these be administered, and are women receiving enough information about PMH/suicidality and relevant support services) (see Appendix H for panellist online survey instructions).

Data from round-one were collated and panellists were sent a detailed summary report which included both the overall anonymised group ratings and their own individual ratings per dimension/item/response options (e.g., bar charts, mean scores, consensus levels and item rankings), and qualitative feedback (see Appendix I for round-one example report pages sent to panellists). Panellists were asked to consider whether they wished to change or retain their original ratings based on the group outcomes and feedback before completing round-two. Panellists who only took part in round-two (n = 4) were also sent a round-one summary report prior to participation. The round-two survey was live for two-weeks from mid- to end March 2023, and completion followed the same procedure as above. Given that the purpose of this study was to assess the content validity, acceptability and potential clinical utility of a predefined set of items, all items and response options remained the same in both rounds (without deletions or amendments). This ensured that changes in participants' ratings reflected genuine shifts in opinion rather than reactions to altered phrasing. It is also an important step in scale development, with further refinements to items and qualitative and psychometric testing then being performed at a later stage (Boateng et al., 2018).

7.3.5 Data analysis

Quantitative data were analysed in Microsoft Excel. As aforementioned, each suicide-related item was rated against five dimensions. At the dimensional-level, consensus was determined as ≥ 70% panellists endorsing *quite* or *highly* for any dimension. This consensus cut-off is in line with previous research (Beach et al., 2024; Dragostinov et al., 2022; Hellberg et al., 2021; Joshi et al., 2022; Setkowski et al., 2020). However, because the five dimensions

assumed equal value, the overall item-level consensus was determined as ≥ 70% of panellists endorsing *quite* or *highly* for *all* five dimensions, and not only by calculating measures of central tendency across them. Within each section (i.e., screening items, suicide attempt items etc.), items that reached consensus for all five dimensions in round-two were then ranked according to their mean score. Item response options that reached consensus for all three dimensions were also ranked based upon their mean scores.

Qualitative feedback was explored in two ways. Firstly, all panellist statements were coded and quantified per item as either "supportive" (e.g., endorsed the item), "unsupportive" (e.g., critical of the item, and/or changes to content were suggested), or "not applicable" (e.g., the statement concerned the topic more generally). These statements were then examined thematically to identify key themes within each item. Only the feedback from round-one was analysed as no new themes appeared in round-two. Comments related to the three general questions were also explored and reported.

Study quality was guided by the criteria set out by Nasa et al. (2021) for assessing Delphi methods in healthcare research.

7.4 Results

7.4.1 Sample characteristics

Thirty unique participants took part in this study. Twenty-six participants completed round-one. Of these, 20 also completed round-two, and six dropped out. Four new participants were recruited for round-two, totalling 24 participants. Most participants identified as female (n = 27), spoke English as a first language (n = 25) and lived in the United Kingdom (n = 24). Half of participants were White British. Eleven worked in academic roles, five were specialist PMH midwives, five worked in clinical mental health, five worked academically and

clinically, and four worked in suicide prevention. The number of years participants had worked in their role ranged from one to 30 years (mean 9.66). All participants stated that they had specific interest in PMH and/or suicidality. Sociodemographic information is presented in Table 7.2.

Table 7.2 Sample characteristics (n = 30*)

Sociodemographic variable	*M (range)* or *n* (%)
Age	
25 - 34 years	8 (27%)
35 - 44 years	15 (50%)
45 - 54 years	4 (13%)
55 - 64 years	3 (10%)
Sex	
Female	27 (90%)
Male	3 (10%)
English as first language	
Yes	25 (83%)
No	5 (17%)
Current country of residence	
United Kingdom (UK)	24 (80%)
United States of America (USA)	3 (10%)
United Arab Emirates (UAE)	1 (3%)
Ireland	1 (3%)
New Zealand (NZ)	1 (3%)
Professional role	
Academic (e.g., professor, research fellow, lecturer, researcher)	11 (37%)
Specialist PMH midwife	5 (17%)
Combined academic/clinical role	5 (17%)
Suicide prevention	4 (13%)
Clinical psychologist	2 (7%)
Consultant psychiatrist	1 (3%)
Mental healthcare assistant	1 (3%)
Psychological wellbeing practitioner	1 (3%)
Number of years in professional role	9.66 (1 – 30 years)
Cultural background	
(White) English/Welsh/Scottish/Northern Irish/British	15 (50%)
Any other White background	11 (37%)
(White) Irish	1 (3%)
(Mixed/multiple ethnic groups) White and Asian	1 (3%)
(Mixed/multiple ethnic groups) White and Black Caribbean	1 (3%)
(Black/African/Caribbean/Black British) Caribbean	1 (3%)

* Thirty unique participants took part in this study. Twenty-six participants completed the round-one questionnaire. Of these, 20 also completed the round-two questionnaire, and six did not. Twenty-four participants completed the round-two questionnaire, which included four new participants who did not complete round-one.

7.4.2 Quantitative results

Dimensional and overall item-level consensus ratings from both rounds are displayed in Table 7.3 (and Appendix J). In round-one, 10 of the 22 suicide-related items reached item-level consensus for content validity, acceptability, and potential clinical utility. All 22 items were retained (without amendment) in round-two. Following consideration of the round-one summary report, panellists re-rated the 22 items in round-two. The same 10 items reached item-level consensus in round-two, plus an additional four that had not achieved consensus in round-one, totalling 14 items. The highest-ranking items in round-two (per section) were: "Have you had thoughts about hurting yourself in some way, or of not wanting to be alive?" (item-1d, suicidal and/or self-harm ideation screening); "Have you had thoughts about ending your own life?" (item-2d, suicidal ideation); "Have you had thoughts about how you might end your own life?" (item-3b, suicide plans); "Do you feel there is an immediate risk that you will attempt to end your own life?" (item-4d, suicidal behaviours); "Have you attempted to end your own life in some way?" (item-5b, suicide attempts); and "Prior to your most recent pregnancy, have you experienced suicidal thoughts in the past?" (item-6a, suicidality history).

Table 7.3 Dimensional and item-level consensus scores (%) based on the number of panellists endorsing *quite* or *highly*

Suicidal and/or self-harm ideation screening items												
Item	Round 1 Dimension consensus (%) and Mean (%)						Round 2 Dimension consensus (%) and Mean (%)					
	Relevance	Clarity	Accept	Effect	Feasibility	*M*	Relevance	Clarity	Accept	Effect	Feasibility	*M*
Item 1d "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about hurting yourself in some way or of not wanting to be alive?"	**84.61%**	61.54%	61.54%	65.38%	**72.00%**	69.01%	**83.33%**	**70.83%**	**73.91%**	**73.91%**	**81.81%**	**76.75%**
Item 1a "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], has the thought of harming yourself occurred to you?" NOTE: This includes thoughts about causing physical or emotional harm to yourself, and/or thoughts about ending your own life.	**88.46%**	65.39%	65.38%	53.85%	69.23%	68.46%	**95.83%**	**78.26%**	**73.91%**	60.87%	**82.61%**	78.29%
Item 1b "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about hurting yourself in some way?" NOTE: This includes thoughts about causing physical or emotional hurt to yourself, and/or thoughts about ending your own life.	**84.62%**	**73.08%**	65.38%	57.69%	**80.77%**	72.30%	**91.67%**	**73.91%**	**73.91%**	60.87%	**86.96%**	77.46%
Item 1c "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had	**88.62%**	**73.07%**	**73.07%**	65.38%	**88.46%**	76.92%	**91.67%**	65.21%	**78.26%**	69.56%	**82.61%**	77.46%

thoughts that your baby, friends or family would be better off without you?"												
Item 1e "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts of": (1) physically or emotionally hurting yourself in some way; (2) ending your life?"	**88.47%**	61.54%	65.39%	**73.08%**	69.23%	71.54%	**91.67%**	58.33%	**75.00%**	62.50%	**70.83%**	71.66%

Suicidal ideation items

Item	Round 1 Dimension consensus (%) and Mean (%)						Round 2 Dimension consensus (%) and Mean (%)					
	Relevance	Clarity	Accept	Effect	Feasibility	*M*	Relevance	Clarity	Accept	Effect	Feasibility	*M*
Item 2d "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about ending your own life?"	**100.00%**	**100.00%**	**92.31%**	**100.00%**	**84.62%**	**95.38%**	**95.84%**	**95.84%**	**79.17%**	**100.00%**	**95.45%**	**93.26%**
Item 2c "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about suicide?"	**92.31%**	**92.31%**	**73.08%**	**84.62%**	**76.93%**	**83.85%**	**95.83%**	**95.83%**	**79.16%**	**91.67%**	**86.96%**	**89.89%**
Item 2a "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that you don't want to be alive?"	**96.15%**	**96.15%**	**73.08%**	**88.46%**	**84.00%**	**87.56%**	**95.83%**	**95.83%**	**83.33%**	**79.17%**	**87.50%**	**88.33%**
Item 2e "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had	**100.00%**	**80.77%**	**80.77%**	**84.62%**	**76.92%**	**84.61%**	**95.84%**	**79.16%**	**79.16%**	**82.61%**	**86.96%**	**84.74%**

thoughts that you don't want to be alive, or of ending your own life?"												
Item 2f "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate]: I haven't had thoughts about ending my own life; I have had thoughts about ending my own life, but I would not carry them out; I have had thoughts about ending my own life."	**84.62%**	50.00%	57.69%	61.54%	57.69%	62.00%	**95.83%**	**70.83%**	**66.67%**	69.57%	**73.91%**	75.36%
Item 2b "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you wished you could go to sleep and not wake up?"	65.39%	53.85%	69.24%	42.31%	69.23%	60.00%	**75.00%**	41.67%	58.33%	25.00%	63.64%	52.72%

Suicide plan items

Item	Round 1 Dimension consensus (%) and Mean (%)						Round 2 Dimension consensus (%) and Mean (%)					
	Relevance	Clarity	Accept	Effect	Feasibility	*M*	Relevance	Clarity	Accept	Effect	Feasibility	*M*
Item 3b "Have you had thoughts about how you might end your own life?"	**96.15%**	**88.47%**	**80.77%**	**76.92%**	**76.93%**	**83.84%**	**95.83%**	**95.83%**	**83.34%**	**95.65%**	**86.96%**	**91.52%**
Item 3a "Have you made plans to end your own life?"	**92.00%**	**92.00%**	64.00%	**88.00%**	**70.83%**	81.36%	**95.84%**	**100.00%**	**75.00%**	**95.83%**	**86.96%**	**90.72%**
Item 3c "Have you told anyone that you have made plans to end your own life?"	**76.00%**	**92.00%**	**84.00%**	60.00%	**75.00%**	77.40%	**87.50%**	**83.33%**	**79.17%**	54.17%	**83.33%**	77.50%

Suicidal behaviour items

Item	Round 1 Dimension consensus (%) and Mean (%)	Round 2 Dimension consensus (%) and Mean (%)

	Relevance	Clarity	Accept	Effect	Feasibility	*M*	Relevance	Clarity	Accept	Effect	Feasibility	*M*
Item 4d "Do you feel there is an immediate risk that you will attempt to end your own life?"	**92.30%**	**76.93%**	**80.77%**	**80.77%**	**88.46%**	**83.84%**	**95.84%**	**83.33%**	**83.33%**	**83.33%**	**82.61%**	**85.69%**
Item 4a "Have you made preparations to end your own life?"	**88.47%**	**80.77%**	**73.07%**	**73.07%**	69.23%	76.92%	**91.67%**	**82.61%**	**82.61%**	**82.61%**	**82.61%**	**84.42%**
Item 4b "Have you taken steps to end your own life (for example, obtaining pills or equipment)?"	**88.46%**	**88.46%**	**73.07%**	**80.77%**	**73.08%**	**80.76%**	**95.84%**	**79.17%**	**70.83%**	**86.95%**	**81.81%**	**82.92%**
Item 4c "Have you made arrangements for ending your own life (for example, getting your financial affairs in order or writing a note to loved ones)?"	**76.92%**	**73.08%**	65.38%	**73.07%**	65.38%	70.76%	**87.50%**	**83.34%**	66.66%	**77.28%**	**86.95%**	80.34%

Suicide attempt items

Item	Round 1 Dimension consensus (%) and Mean (%)						Round 2 Dimension consensus (%) and Mean (%)					
	Relevance	Clarity	Accept	Effect	Feasibility	*M*	Relevance	Clarity	Accept	Effect	Feasibility	*M*
Item 5b "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you attempted to end your own life in some way?"	**92.31%**	**96.16%**	69.23%	**92.30%**	**76.93%**	85.38%	**95.84%**	**87.50%**	**78.26%**	**91.30%**	**91.30%**	**88.84%**
Item 5a "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you made any suicide attempts?"	**96.16%**	**100.00%**	**76.93%**	**96.16%**	**80.77%**	**90.00%**	**95.84%**	**91.66%**	**75.00%**	**91.31%**	**86.36%**	**88.03%**

Suicidality history items

Item	Round 1 Dimension consensus (%) and Mean (%)	Round 2 Dimension consensus (%) and Mean (%)

	Relevance	Clarity	Accept	Effect	Feasibility	*M*	Relevance	Clarity	Accept	Effect	Feasibility	*M*
Item 6a "Prior to your most recent pregnancy, have you experienced suicidal thoughts in the past?"	**100.00%**	**88.46%**	**88.46%**	**84.62%**	**84.62%**	**89.23%**	**95.83%**	**95.83%**	**91.67%**	**82.61%**	**95.66%**	**95.76%**
Item 6b "Prior to your most recent pregnancy, have you attempted to end your own life in the past?"	**96.15%**	**96.15%**	**76.93%**	**88.46%**	**84.62%**	**88.46%**	**100.00%**	**95.83%**	**91.67%**	**100.00%**	**91.30%**	**92.32%**

Notes: (i) **bold** = dimensional OR overall item-level consensus criteria achieved (≥ 70% per dimension, and overall item-level consensus is ≥ 70% for ALL five dimensions); (ii) items achieving overall consensus have been put into rank order using their mean score from round-two (per section); (iii) some panellists did not rate every dimension for every item.
Response options: items 1a, 1b, 1c, and 1d = *never, sometimes, quite often, most of the time*, 1e = *yes or no*; items 2a, 2b, 2c, 2d and 2e = *never, sometimes, quite often, most of the time*, and 2f = *choose one of the following statements*; all items in sections 3-6 = *yes or no*.

Twenty-one response scales/items reached consensus in both rounds. Item (item-2f) did not reach consensus due to its formatting (i.e., “pick one of the following statements…”). All other response options were either frequency-based Likert-type scales (i.e., *never; sometimes; quite often; most of the time*) or dichotomous *yes* or *no* (see Appendix K) for the response choice consensus ratings).

7.4.3 Qualitative results

Analysis of qualitative feedback indicated that panellists reported more unsupportive statements than supportive statements for most items. Many statements were suggestions for modifications (see Appendix L for qualitative analysis). Key themes per item were also explored. Overarching themes concerned: (i) item comprehension (e.g., vagueness and/or potential difficulty in understanding conceptual definitions); (ii) implications of using particular words (e.g., words that might perpetuate stigma or be assumptive); (iii) issues related to compound items (e.g., encompassing suicidal and non-suicidal harm in one item, or passive and active suicidal ideation); (iv) critique of response options; and (v) wider barriers and facilitators regarding the use of screening items to identify perinatal suicidality.

Responses to the three broader questions about the topic area are reported in Appendix M. In summary, 77% indicated that all perinatal women should be asked about suicidality, with 23% suggesting that this should occur at least once in pregnancy, and once after birth. Fifty-four percent of panellists felt that suicidality screening should be administered face-to-face, 42% suggested that this could either be face-to-face or on an iPad/paper questionnaire, and 4% suggested completion via an iPad prior to appointment. Lastly, 64% said that perinatal women are not given enough information about PMH/suicidality or available support, and 36% said that some information is given but this is highly variable across services.

7.5 Discussion

This study assessed the content validity, acceptability, and potential clinical utility of 22 suicide-related items for use with perinatal women, using a Delphi consensus method. Consensus was reached for 14 items and 21 item response options in round-two. Qualitative feedback provided nuance to these findings and highlighted key areas for further consideration. Delphi methods have not previously been used to evaluate measurement items for identifying perinatal suicidality. This study makes a valuable contribution to the literature by: (i) generating new knowledge about the potential relevance, clarity, acceptability, effectiveness and feasibility of different suicide-related items; (ii) exploring suicide-related items in terms of distinct processes (e.g., passive/active suicidal ideation, behaviours, plans, attempts and history), as opposed to reducing suicidality to a singular screening item; and (iii) providing insights to inform the development of new suicidality measures for use with pregnant and postnatal women. In the following paragraphs, consensus findings are discussed in light of the qualitative feedback and previous research. Clinical implications are also considered.

7.5.1 Items reaching consensus

Of the 14 items that achieved consensus, one came from the suicidal and/or self-harm ideation screening section (item-1d) and four from the suicidal ideation only section (items 2a, 2c, 2d, 2e). The top-ranking item asked, “Have you had thoughts about ending your own life” (item-2d). Panellists said that the phrasing of this item felt empathetic and clear, which may help maternity healthcare practitioners to facilitate an open conversation with perinatal women about how they are feeling. This finding is consistent with previous research (Dudeney et al., 2024a, 2025). Evidence shows that the quality and continuity of the

relationship between perinatal women and their caregiver is key for establishing trust and supporting their disclosure of PMH difficulties and/or suicidality (Barr et al., 2024; Cummins et al., 2025; Meades et al., 2024b; Webb et al., 2024). Items that reinforce stigma, contain judgemental language, and/or exacerbate women's fears about the consequences of expressing suicidality will have the opposite effect (Dudeney et al., 2024a, 2025).

A further nine items reached consensus from the sections related to suicide plans (items 3a, 3b), suicidal behaviours (items 4a, 4b, 4d), suicide attempts (items 5a, 5b) and suicidality history (items 6a, 6b). Overall, panellists felt that these had potential utility for gaining deeper insight into a woman's experience of suicidality, if suicidal ideation had been disclosed prior. However, qualitative feedback highlighted issues with some item content. For example, panellists commented on the need to define suicide "plans" (item-3a), "preparations" (item-4a) and "taken steps" (item-4b) as these lacked clarity. It is important that women understand suicide-related items to avoid cases being missed. Future research should consider these implications when developing new measures for identifying perinatal suicidality.

7.5.2 Items that did not reach consensus

Eight items did not reach consensus in round-two. Half of these screened for both suicidal and/or self-harming thoughts together (items 1a, 1b, 1c, 1e). Many panellists commented on the importance of treating suicide and self-harm as separate phenomenon and said that the clarity and effectiveness of these items were problematic. The National Institute for Health and Care Excellence (NICE) (2024) states that "self-harm includes suicide attempts as well as acts involving little or no suicidal intent". However, Dudeney et al., (2024a) found that perinatal women struggled to interpret the meaning of "hurting or harming myself" in terms of suicidal or non-suicidal harm, physical or psychological harm, and intentional or

unintentional harm, and that some women also felt deterred from answering compound items because they might not want to align themselves with both aspects of the question (e.g., self-harm *and* suicide). Recognising this distinction is particularly important in clinical settings where the treatment pathways for suicidal or self-harming thoughts/behaviours differ significantly.

7.5.3 Response options

One item response scale (item-2f) did not reach consensus. Panellists felt that using a forced statement format was inappropriate and may prevent women from sharing thoughts and experiences in their own words. All other item response options were either a Likert-scale or dichotomous "*yes* or *no*".

7.5.4 Clinical implications of screening for PMH and suicidality

In busy maternity care settings, screening offers a pragmatic solution for identifying women who may be experiencing PMH problems and/or suicidality. Screening measures are generally brief, easy to administer, with a relatively low cost, can lead to earlier identification of problems, symptom reduction, timely access to appropriate care, and increased engagement with services (Reilly et al., 2020; Waqas et al., 2022). Research also suggests that perinatal women want to be asked about PMH and suicidality (given certain conditions) (Dudeney et al., 2024a, 2024b), and 77% of panellists stated that all women should be asked about suicidal ideation during the perinatal period. These findings highlight the need for perinatal specific suicide-related screening measures to be developed and implemented into maternity care for identifying women who may require additional support. Screening measures should never replace comprehensive psychosocial assessment for women who indicate possible suicidality, nor should they be used to determine individual suicide risk.

Instead, they may have value as part of a combined approach to PMH provision. Wider barriers and issues that may affect the implementation and uptake of suicidality screening in maternity services include: (i) over-detection of PMH problems; (ii) capacity within services (e.g., resources, lack of funding); (iii) access to specialist PMH care; (iv) potential harm to women (e.g., increased distress/anxiety, social stigma); and (v) practitioner-related factors (e.g., lack of confidence, training, and skills to ask about PMH and suicidality) (Dudeney et al., 2024a, 2024b, 2025; Milgrom and Gemmill, 2015; Solutions for Public Health, 2019). It is important that continued prioritisation and investment is made in PMH care to address these factors, and for multidisciplinary approaches to be adopted within maternity settings to improve services for women and their babies.

7.5.5 Strengths, limitations, and future research

Consensus-based methods provide a systematic means of synthesising expert opinions and establishing agreement on a topic where there is fragmented or limited knowledge. A strength of this Delphi study was the recruitment of panellists from different professional backgrounds who have a specialist interest in PMH and/or suicidality. This aligns with a multidisciplinary approach to knowledge acquisition which is particularly important in health research and clinical practice. However, whilst the authors made every effort to recruit a racially, ethnically, and geographically diverse sample, most panellists were White and/or from the UK which is a limitation. Future research should seek to include the views from a broader range of panellists as this may provide further valuable insights which may not have been captured in this study. Likewise, whilst the threshold of ≥ 70% has been used in previous research (e.g., Beach et al., 2024; Dragostinov et al., 2022; Hellberg et al., 2021; Joshi et al., 2022; Setkowski et al., 2020), it is important to note that differential consensus criteria may affect the results. Future research should continue to explore the content validity and

acceptability of the items assessed and potential new items, using qualitative methods. It is also important to assess the reading age of these items to ensure their linguistic accessibility. Lastly, further psychometric work is now needed to evaluate and validate these items, which is an essential stage in the development of measurement tools.

7.5.6 Conclusions

There is a need for perinatal specific suicide-related screening measures to be developed that can support the early identification of pregnant and postnatal women who may be experiencing suicidal ideation and/or behaviours. This study showed that 14 suicide-related items met consensus for acceptability, content validity, and potential clinical utility for use with perinatal women. With robust psychometric testing, these items could be taken forward to develop a perinatal-specific suicidality screening measure, which experts in this study agree is required.

8 General Discussion

8.1 Chapter overview

This thesis presented four studies (five articles) that sought to determine acceptable, appropriate, and clinically relevant approaches for identifying and discussing suicidality with pregnant and postnatal women in the context of maternity care. This aim was addressed through: (i) a systematic review examining measures that have been administered and validated with perinatal women (Chapter 3, Article 1); (ii) a qualitative study with perinatal women to explore the content validity and acceptability of suicide-related screening items (Chapter 4, Article 2); (iii) a qualitative study with perinatal women to explore their broader views and experiences of discussing suicidality in maternity care contexts (Chapter 5, Article 3); (iv) a qualitative study with maternity healthcare practitioners (HCPs) to explore their attitudes towards suicide-related screening items and the implications of discussing suicidality with perinatal women (Chapter 6, Article 4); and (v) a mixed-method Delphi study with an expert panel to evaluate the content validity, acceptability, and potential utility of new and adapted suicide-related items (Chapter 7, Article 5).

This Discussion chapter is presented in six sections. The first section summarises key findings from the articles that comprise this research. These findings are also presented in Table 8.1. The second section provides a brief overview of relevant studies that have been published since the systematic review. The third section discusses the main considerations and implications of the research within a broader context. The fourth section examines strengths and limitations. The fifth section discusses implications for practice, policy and research, and the sixth section highlights the research impact and dissemination. The chapter closes with a brief overall conclusion.

Table 8.1 Summary of key findings from each article included in this thesis

Article	Chapter	Key findings	Thesis objective(s) addressed
1. Measures of suicidality in perinatal women: A systematic review *(Study 1)*	3	- Limited psychometric evidence for the validity and/or reliability of the suicidality measures identified in perinatal samples - Most suicidality measures were item(s) embedded within depression scales, and only three were specifically designed for use with perinatal women - Further research is needed to validate suicidality measures with perinatal women - Development and validation of perinatal specific suicidality measures is warranted	1
2. Acceptability and content validity of suicidality screening items: A qualitative study with perinatal women *(Study 2)*	4	- Suicidality screening items assessed were largely unacceptable to perinatal women in their current form - Content, clarity and appropriateness of these items may create and/or reinforce disclosure barriers - Terms such as “harming myself” were often interpreted as non-suicidal self-harm, and not suicidality - Women preferred items with softer, clearer and less abstract phrasing (e.g., “ending your life”) - Stigma, fear of the consequences, and misunderstanding the items were central barriers to disclosure	2,3
3. Perinatal women’s views and experiences of discussing suicide in maternity care settings: A qualitative study *(Study 2)*	5	- Barriers to suicidality disclosure included: fear of child removal, social expectations of motherhood, rushed appointments and focus on baby, quality of caregiver relationship, poor continuity of care - Facilitators included: trusting relationship with caregiver, peer/family support - Most women wanted routine, normalised conversations/questions about mental health and suicidality throughout pregnancy and after birth	3

		- Women also wanted clear and appropriate information about perinatal mental health and suicidality from the earliest opportunity - Preferred approaches to screening or suicide-related conversations included: being asked in private, having choice/multiple modes of administration (e.g., form and/or face-to-face), sensitive framing of questions	
4. Attitudes, experiences, and implications of asking about suicide during the perinatal period: A qualitative study with maternity healthcare practitioners *(Study 3)*	6	- Most healthcare practitioners felt uncomfortable with, disliked, or found half of the suicidality items assessed unhelpful - Discomfort was particularly high with items using emotional or vague language, and many preferred not to use the word 'suicide' itself - Healthcare practitioners preferred softer, less accusatory items (e.g., "end your own life"), but wanted clear referral pathways in place before asking perinatal women about suicidality - Barriers and implications to the identification of perinatal suicidality included: lack of training, time constraints, poor continuity of care, unclear referral pathways, overburdened services and a lack of access to specialist perinatal mental healthcare	2,3
5. Questionnaire items to identify suicidality in perinatal women: A Delphi study *(Study 4)*	7	- Fourteen suicidality items reached consensus across five evaluation dimensions via expert panel - Panellists stressed the need for clear, non-ambiguous language, and items that differentiated between suicidal ideation and self-harm - The top-ranking item for identifying suicidal ideation was "Have you had thoughts about ending your own life?" - Findings can inform current screening item choices, and the development of perinatal specific suicidality measures	4

8.2.1 Systematic review

Chapter 3 (Article 1) presented a systematic review which examined measures of suicidality that have been administered with perinatal women and evaluated their psychometric properties. Two-hundred and eight studies were included, with 35 providing validity and/or reliability data for ten suicidality measures. There was limited psychometric evidence for the suicidality measures identified. Most suicidality measures were items embedded within broader tools that primarily assessed depression, such as the Edinburgh Postnatal Depression Scale (EPDS), the Patient Health Questionnaire-9 (PHQ-9) and the Postpartum Depression Screening Scale (PDSS). Of these, the PDSS suicidal thoughts subscale (SUI) was validated most frequently, and demonstrated good concurrent and construct validity, and excellent internal consistency. However, the PDSS SUI cannot be used as a standalone measure outside the context of screening for depression, which limits its clinical utility. The EPDS and PHQ-9 are commonly used in clinical practice, but both had limitations in terms of construct clarity with the former asking about "thoughts of harming" and the latter combining both passive and active suicidal ideation and/or self-harm in a single item. Notably, only three of the measures identified had been specifically developed for perinatal women, and only one suicide-specific measure, the Columbia-Suicide Severity Rating Scale (eC-SSRS), was validated in a single study. This review highlighted a need for further validation of suicidality measures in pregnant and postnatal women. Likewise, the development of standalone, appropriate and psychometrically robust perinatal specific suicidality measures is warranted.

8.2.2 Qualitative study with perinatal women (acceptability and content validity)

Considering the lack of psychometric evidence to support the use of the suicidality measures identified in the systematic review, Chapter 4 (Article 2) explored the content validity and acceptability of suicide-related screening items with pregnant and postnatal women using

cognitive interviewing techniques. Based on the Theoretical Framework of Acceptability (Sekhon et al., 2017), 16 items (and their corresponding response options and recall periods) were assessed against the following constructs: "affective attitude", "burden and intervention coherence", "opportunity costs, self-efficacy and ethicality", and "perceived effectiveness". Findings indicated that most suicide-related items were unacceptable to perinatal women in their current form. Women felt uncomfortable with items that used terms such as "killing myself" or "better off dead" as these were perceived to be confronting and stigmatising. In contrast, women felt that phrasing such as "ending your life" was more acceptable, softer and clearer to understand. Many women also interpreted items that used the terms "harming myself" or "hurting myself" to mean non-suicidal self-harm, and they found compound questions such as "Have you had thoughts that you would be better off dead, or of hurting yourself in some way?" (PHQ-9, item-9) confusing and problematic. Response options and recall periods further affected the acceptability and content validity of the items. The findings of this study highlighted that the content, comprehensibility and appropriateness of the items assessed created and/or reinforced barriers to perinatal women's willingness to disclose suicidality. Women said that stigma, perceived judgement and a fear of the consequences would prevent them from answering some of these items honestly. It is important that women feel comfortable with the content of suicide-related screening questions, or else cases may be missed.

8.2.3 Qualitative study with perinatal women (views and experiences)

Alongside the cognitive interviews, Chapter 5 (Article 3) reports on the findings from the semi-structured component of the interviews with pregnant and postnatal women. Here, women's views and experiences of discussing suicidality in the context of maternity care were explored more broadly, with specific interest to the barriers and facilitators that may

affect disclosure. Four overarching themes were identified. The first theme spoke of women's fear around disclosing suicidality in terms of stigma, shame, guilt and judgement. Women talked about how social expectations of motherhood and poor mental health literacy exacerbated these feelings. A key concern was that their babies would be taken away and/or that suicidal disclosure would invite unwanted intervention. The second theme highlighted barriers within the maternity care context itself that women felt contributed to perinatal suicidality not being identified. Factors included, minimisation of symptoms, rushed appointments, disproportionate focus on baby, lack of caregiver experience or training in perinatal mental health (PMH), and poor continuity of care. The third theme concerned factors that women felt were important in terms of the approach taken for identifying and discussing suicidality in these settings. For example, women talked about the need for sensitive framing and normalisation of discussions around PMH and suicidality. They also suggested that there should be multiple modes for asking suicide-related questions (e.g., form and/or face-to-face), and that it was important for such conversations to take place in private. The final theme spoke of the factors that women felt would help to elicit more receptive and honest disclosures of suicidality. A need for appropriate and proportionate information about PMH and suicidality (from the earliest opportunity) was central to their narratives. The findings of this study indicate that whilst women feel that it is important and necessary to be asked about PMH and suicidality during pregnancy and after birth, there are significant barriers that affect their willingness and capacity to disclose these feelings to maternity healthcare practitioners (HCPs). Sensitive, appropriate and person-centred approaches for discussing suicidality are needed to support women in feeling informed, validated and to preserve their sense of self-agency.

8.2.4 Qualitative study with maternity HCPs (attitudes and implications)

To supplement the findings of Chapters 3, 4, and 5, Chapter 6 (Article 4) explored maternity HCPs attitudes towards 16 suicide-related screening items (the same items as Chapter 4), and their views regarding the barriers, facilitators and implications of asking pregnant and postnatal women about suicidality, via semi-structured interviews. Most HCPs were uncomfortable with, disliked and/or thought half of the items were unhelpful for identifying perinatal suicidality. Key reasons included the use of judgemental, ambiguous, and/or emotive language such as "death seemed like the only way out of this living nightmare", and concerns were raised about item clarity, cultural sensitivity and risk of causing distress. HCPs felt most comfortable with EPDS, item-10, although they reiterated that "harming" may not be interpreted to include suicidal ideation. Notably, many HCPs felt that using the word "suicide" itself was problematic with perinatal women, and instead preferred the phrase "end your own life".

Four overarching themes were identified. The first theme captured HCPs views concerning the benefits, limitations and implications of screening measures. This highlighted that a lack of standardisation for how to approach PMH and suicidality discussions with perinatal women meant that sometimes these questions were overlooked. The second theme spoke of HCPs competing demands, overload and the difficulty of building rapport with perinatal women in the absence of continuity. The third theme concerned a lack of PMH and suicide training and support for HCPs who work with perinatal women. Many talked about being ill-equipped to hold these types of conversations and felt unsafe with the responsibility of asking perinatal women about suicidality. This appeared to be a critical issue that shaped many of their accounts. The final theme stressed the impact of overburdened services and unclear referral pathways for accessing specialist PMH care. Here, HCPs described feeling conflicted about asking suicide-related questions because they feared leaving women in a

more vulnerable state if they were unable to offer them any support. These findings underscore the importance of equipping maternity HCPs with the necessary training and support to engage in suicide-related conversations with perinatal women (within the scope of their role). They also demonstrate the need for continued prioritisation of collaborative and integrated maternity services to improve access to timely and appropriate care.

8.2.5 Mixed-method Delphi study

Informed by the findings of Chapters 3 to 6, Chapter 7 (Article 5) presents an online two-round Delphi survey that assessed the content validity, acceptability and potential clinical utility of 22 suicide-related items that were adapted or developed for use with perinatal women, via expert consensus. Items were grouped into six sections: suicidal and/or self-harm ideation; suicidal ideation only (passive ideation, active ideation, and/or both); suicide plans; suicidal behaviours; suicide attempts; and suicidality history. Panellists rated the items against five dimensions, "relevance", "clarity", "acceptability", "effectiveness", and "feasibility". Response options were also rated against three dimensions, and qualitative data were collected via free-text boxes. Fourteen items reached consensus in round-two (≥70% agreement across all five dimensions), as did 21 response options. The highest-ranking item for identifying suicidal ideation was "Have you had thoughts about ending your own life?". Half of the items that did not reach consensus screened for both suicidal ideation and/or self-harm ideation combined. Panellists commented on the importance of using clear, non-stigmatising language, and differentiating between self-harm and suicidality. Likewise, 77% of panellists stated that all pregnant and postnatal women should be asked about suicidality, and 64% felt that women are not given enough information about PMH and suicidality. The findings from this study will help to inform current screening approaches and provide a

preliminary basis for the development of new perinatal specific measures that can support the initial identification of suicidality.

8.3 Overview of relevant published evidence since the systematic review

Database searches for the systematic review that was conducted as part of this thesis were performed for research published up to January 2022 (Chapter 3, Article 1). Since that time, there has been growing recognition of the critical need to address perinatal suicidality, with a subsequent rapid growth in research studies. This section provides a brief overview of studies administering and/or measuring perinatal suicidality that were published since January 2022 (up to June 2025).

During this time, over 70 research studies administered a measure of suicidality in perinatal populations as either a primary focus (e.g., using a specific suicide measure or a suicide-related item embedded within a depression measure to examine the prevalence of suicidal ideation) or a secondary focus (e.g., study examined postnatal depression, but data were reported for suicide-related items). At least twenty-six studies also validated a measure of suicidality (e.g., reported some type of psychometric validity and/or reliability data). This includes further validation of the suicide and/or self-harm items from the EPDS, PHQ-9, BDI/BDI-II, PDSS, HRSR and C-SSRS (e.g., Liu et al., 2024; Nieser et al., 2023; Schafer et al., 2024; Suenaga, 2022), and validity and/or reliability data for 10 measures that were not included in the systematic review (e.g., Bah et al., 2025; Doi et al., 2025; Goller et al., 2024; Martínez-Galiano et al., 2024). Data reported for these measures came from individual studies (i.e., one study per measure), and only three measures were suicide specific. The remainder were scales of depression, perinatal mental health, psychological distress, perinatal grief, social life impact, and multidimensional behaviours.

Key findings from this more recent evidence are as follows. Martínez-Galiano et al. (2024) assessed the psychometric properties of the Paykel Suicide Scale (Paykel et al., 1974) and the Plutchik Suicide Risk Scale (Plutchik et al., 1989) in a sample of 237 Spanish perinatal women. Very few studies have sought to purposely validate suicide specific scales with perinatal women, as opposed to examining an item within a broader measure of mental health. Findings indicated that both scales displayed adequate psychometric properties. However, the face validity, content validity and acceptability of these measures has not been tested, which is problematic. Specifically, the Plutchik scale includes several items that may have little relevance to or may be inappropriate for identifying perinatal suicidality. For example, item-12 reads "Have you ever felt so angry that you could have been able to kill someone?", and several other items use the phrase "commit suicide". Such phrasing may create and/or reinforce barriers to disclosure (as demonstrated in Chapter 4 of this thesis), so it is important for future research to address these limitations.

A second study by Martínez-Galiano et al. (2025) also found an association between perinatal women's perceived inadequate treatment during childbirth, and an increased odds of suicidal ideation and depression postnatally (measured using the EPDS). Whilst this study did not report psychometric data for the EPDS, the findings do have relevance to how perinatal women's experiences of maternity care may contribute directly to a decline in mental health and feelings of suicidality after birth. It is important for future research to explore this association further, as it highlights the role of negative birth experiences and/or unhelpful interactions with caregivers as potentially contributing factors for suicidality in the postnatal period.

Lastly, many commonly used mental health screening measures are developed in HICs and may not be culturally relevant, sensitive and/or appropriate for use outside of these contexts. In the systematic review (Chapter 3), 10 studies reported on the cross-cultural

validity of suicide-related items with perinatal women, either by validating an existing measure with women in a specific country or by validating a translated version of an existing measure. However, none of these studies compared existing measures to those specifically designed for use in LMIC's. Bah et al. (2025) conducted a study to validate a culturally appropriate screening measure (the Sierra Leone Perinatal Psychological Distress Scale [SLPPDS]) for use with perinatal women in Sierra Leone against the PHQ-9. The items included in this tool were informed by both western psychiatric constructs and culturally-derived expressions of distress. Findings indicated that whilst both the SLPPDS and the PHQ-9 showed adequate validity and reliability in this population, the SLPPDS was more effective at capturing the unique experiences and needs of perinatal women in this context. This underscores the need for suicide-related measures to be culturally appropriate and validated in diverse perinatal groups.

8.4 Main considerations and wider implications of thesis research

Specific considerations for each study are given within the relevant chapter (Chapters 3 to 7). In the following sections, the main considerations and implications across this thesis research are discussed.

8.4.1 Implications of using depression measures to identify perinatal suicidality

Findings from the systematic review (Chapter 3, Article 1) demonstrated that many suicidality items that have been validated with perinatal women are embedded within measures that primarily screen for depression. There was limited psychometric evidence to support the use of these items as standalone indicators for identifying perinatal suicidality outside the context of screening for depression more broadly. In current practice, the initial identification of perinatal suicidality may occur through screening for depression, using

measures such as the EPDS or PHQ-9 (NICE, 2014). Depression is a risk factor for suicidality, and the two phenomena are frequently comorbid (Chin et al., 2022; Hagatulah et al., 2024; Howard & Khalifeh, 2020; Yu et al., 2024). However, evidence has shown that perinatal suicidality can present in women who do not meet the screening threshold for depression nor have a clinical diagnosis of depression, which has significant implications for identifying women who may require support (Arditi-Arbel et al., 2023; Chen et al., 2023b; Despotis et al., 2025; Garman et al., 2019a; Knight et al., 2022; Onah et al., 2017). A recent UK population-based study by Despotis et al. (2025) suggested that approximately one in ten postnatal women with possible suicidality may be missed using the standard EPDS threshold (score ≥ 13) for probable depression. Given that almost no suicide specific measures have been validated with perinatal women, findings from the systematic review underscore the need for future research to validate these types of measures with pregnant and postnatal women. Likewise, there is a need for perinatal suicidality measures to be developed that can be administered independently from depression and anxiety screening.

8.4.2 Implications of item content for the identification of perinatal suicidality

Further to the psychometric limitations of the suicidality items identified in the review, it was also important and necessary to explore their content validity and acceptability with perinatal women (Chapter 4, Article 2) and maternity HCPs (Chapter 6, Article 4). If these items continue to be used with perinatal women, it is crucial to understand the possible implications of their wording for clinical, research, and policy purposes. Previous research has shown that the content of some suicide-related items may not match people's experiences of suicidality (Malpass et al., 2010, 2016; Richards et al., 2019a, 2019b), it may be confusing and/or misinterpreted (Brealey et al., 2010; Kim et al., 2015; Malpass et al., 2010, 2016), or it may prevent honest disclosure due to fear, discomfort and/or perceived stigma (Fellmeth et al.,

2023). The findings from Chapters 4 and 6 of this thesis have extended existing literature by directly assessing how perinatal women and HCPs interpret, react, and respond to different suicide-related items, which is a significant contribution to this field. Whilst specific findings for each suicide-related item are presented in detail in the relevant chapters, three key items are discussed here that illustrate the overlap between perinatal women's and maternity HCPs views and highlight implications of these items for practice.

Firstly, item-10 from the EPDS reads "the thought of harming myself has occurred to me". As mentioned in Chapter 1, this item is widely used in clinical practice and research as an indicator of suicidal ideation (e.g., Chen et al., 2023b; Despotis et al., 2025; Howard et al., 2011; Kubota et al., 2020; Martínez-Galiano et al., 2025; Xiao et al., 2022). In this thesis research, both perinatal women and HCPs found this item more acceptable and comfortable to answer or administer than other items, largely due to it not asking about suicide directly, and for maternity HCPs, they also felt more familiar with it. However, the fact that it does not ask about suicide directly is a significant limitation of its use. Both perinatal women and HCPs stressed that they would interpret this item to mean non-suicidal self-harm, and stated it was not specific enough to capture suicidal ideation in isolation to further questions. Perinatal women also felt confused by the nuance of "harming" in terms of whether this meant physical or psychological harm, and/or intentional or accidental harm which aligns with previous research (Brealey et al., 2010; Kim et al., 2015). More research needs to be conducted to ascertain which constructs item-10 is capturing, and to consider whether its current wording requires amendment or removal. The findings of this thesis suggest that this item may not be suitable or effective for identifying suicidal ideation in the absence of additional questions and/or follow-up, which implicates its utility, particularly in research settings.

Secondly, item-9 from the PHQ-9 asks, “Have you had thoughts that you would be better off dead, or of hurting yourself in some way”, and this item is again widely used in clinical practice and research as an indicator of suicidal ideation (e.g., Goller et al., 2024; Hagaman et al., 2024; Na et al., 2018; Zhong et al., 2015). Whilst both perinatal women and HCPs stated that this item may have some value as an initial screening question for either and/or both suicidal and self-harm ideation, overall they found this item confusing and problematic. Due to its compound nature, perinatal women and HCPs said it would be difficult to determine how to answer this item if they had only experienced one aspect (e.g., had thoughts of “hurting” but no thoughts of being “better off dead”), and that addressing both passive and active suicidal ideation and/or self-harm in a single item was overwhelming. This also raises questions about the appropriateness of screening for suicidality and self-harm combined. As discussed in Chapter 1, suicidality and self-harm are overlapping but distinct phenomena (Nock, 2010; Whitlock et al., 2015), and many perinatal women and HCPs felt that these should be discussed separately. Likewise, this item does not differentiate intent, so there are implications in terms of determining appropriate care pathways if it is endorsed. In contrast to item-10 from the EPDS, perinatal women felt much less comfortable with this item. They said that the phrase “better off dead” was distressing and confronting, which would put them off answering the question. Previous research has also highlighted discrepancies between peoples lived experiences and descriptions of suicidal and/or self-harm ideation and their responses to PHQ-9 item-9 (e.g., verbally expressing active suicidality, but scoring zero for this item) which further underscores the need to better understand how this item is being interpreted (Malpass et al., 2010, 2016; Richards et al., 2019a, 2019b). In the Delphi study for this thesis (Chapter 7, Article 5) only one item that combined suicidal and self-harm ideation reached consensus. This item had been adapted from item-9 of the PHQ-9 in line with the feedback from perinatal women and HCPs and read “Have you had thoughts

about hurting yourself in some way or of not wanting to be alive?". Overall findings from this research suggest that the original PHQ-9 item-9 may not be acceptable or useful for identifying suicidality in the context of maternity care, as it can cause confusion and create barriers to disclosure.

Lastly, item-17 from the SRQ-20 asks, "Has the thought of ending your life been on your mind". This measure is not as widely used in practice or research as the EPDS or PHQ-9, however the findings from this thesis research suggest that it was the most acceptable item from both perinatal women and maternity HCPs perspectives. Whilst the latter part of the item "on your mind" was deemed unnecessary and confusing, the phrase "ending your life" appeared to be preferable to other terms for the following reasons: (i) softer and more sensitive than words such as "dead", "death", "kill" or "suicide"; (ii) meaning is explanatory without being overly direct or confronting; (iii) likely to capture more active suicidal ideation; (iv) may be more culturally sensitive and understandable to perinatal women who do not speak English as a first language; and (v) clearly distinguishable from thoughts of self-harm.

Based on its content, perinatal women said that the SRQ-20 item 17 was more likely to elicit an honest response about suicidality compared to the other items assessed. This is a novel research finding which overcomes some of the issues identified with alternative suicide-related items. Likewise, HCPs said they would be more comfortable using the phrase "ending your life" than the word "suicide" as it potentially carries less stigma. Research also shows that mental health professionals who work with perinatal women sometimes feel that direct questions about suicide can hinder open conversations (Reid et al., 2024). In the Delphi study (Chapter 7, Article), the top-ranking item for identifying suicidal ideation had been adapted from item-17 of the SRQ-20 and read "Have you had thoughts about ending your

own life?". As such, the term "ending your life" may have value as an appropriate and acceptable way to ask perinatal women about suicidality.

8.4.3 Implications and appropriateness of screening for perinatal suicidality

A key focus of this thesis research has concerned the validity, reliability, acceptability and potential utility of screening measures for identifying suicidality in perinatal women. However, critical consideration needs to be given to the wider appropriateness and implications of administering screening measures for this purpose. In recent years there has been a shift in thinking about how suicide risk assessments should be conducted, and there have been calls to move away from "tick box" style assessments due to symptom minimisation, inaccuracy and bias (Carter et al., 2017; Fedorowicz et al., 2023; Graney et al., 2020; Royal College of Psychiatrists, 2023). Instead, therapeutic and person-centred models of assessment are advocated that comprehensively explore individual needs, vulnerabilities and circumstances without stratifying suicide risk into categories (Hawton et al., 2022; NHS England, 2025; NICE, 2022a). It is important to be clear that this thesis research does not dispute this approach, nor advocate for an alternative. Rather, the work presented here aims to be complementary and overcome barriers related to screening and the early identification of suicidality in primary maternity care contexts prior to biopsychosocial assessment (if required). It also informs the use of appropriate, acceptable and empirically informed suicide-related items for research purposes with perinatal women to enhance methodological rigor and accuracy.

Previous research (Yapp et al., 2019; Nagle & Farrelly, 2018) and the findings of this thesis show that perinatal women want to be asked about their mental health during pregnancy and after birth, given certain conditions. However, evidence also illustrates that women report mixed views about the use of screening measures for identifying PMH

difficulties. Some women find screening questionnaires impersonal and suggest that they limit opportunities for an open dialogue about individual experiences, whereas others find them helpful for recognising their own symptoms and facilitating a conversation about PMH which they might have otherwise struggled to initiate (Bayrampour et al., 2017; El-Den et al., 2015; Kingston et al., 2015a; Nagle & Farrelly, 2018; RCOG, 2017; Yuill et al., 2023). In this thesis research, both perinatal women and maternity HCPs (Chapters 4 and 5) recognised the value of screening measures for the initial identification of perinatal suicidality, as part of a wider conversation. For women, it was important that questions about PMH and suicidality were sensitively framed, with a clear explanation of their purpose and outcomes. Equally, having choice in how screening measures were administered (e.g., completing a form themselves, or having the questions read out by a HCP etc.) was seen as essential for fostering comfort and autonomy. Women also stressed the need to receive PMH and suicidality information from the earliest opportunity to support their awareness of symptoms and gain an understanding about available services and support. These factors are crucial for adopting a person-centred approach to maternity PMH care. Similar findings were also recently reported by the Sands Maternity Consortium (2024) who explored perinatal women's lived experiences of perinatal suicidality, and their perceived barriers to support and services. Likewise, maternity HCPs highlighted the utility of having standardised suicide-related screening measures to help initiate these types of conversations, particularly for HCPs who are less experienced and/or lack confidence about broaching this topic. However, HCPs also voiced concerns about the potential over-reliance on screening outcomes and emphasised that these tools should not replace a meaningful dialogue about a woman's individual circumstances.

Therefore, the findings of this research propose a combined approach to the initial identification of perinatal suicidality. Here, brief and acceptable suicide-related measures (as

presented in Chapter 7, Article 5) could be used to support both maternity HCPs and perinatal women to engage in person-centred conversations about PMH and suicidality, and to explore wider risk factors and individual needs. Within a stepped-care integrated framework, suicide-related screening measures have utility for the early identification of women who may require additional support and/or referral to specialist PMH services (Carter et al., 2025). However, this research does not advocate for the clinical use of suicide-related screening measures in isolation to a wider conversation, and they should not be used for diagnostic purposes or to ascertain suicide risk. In line with current recommendations (Hawton et al., 2022; NHS England, 2025; NICE, 2022a), any disclosure of perinatal suicidality should be followed up by a comprehensive biopsychosocial assessment, with a trained professional, to sensitively explore risk and protective factors and collaboratively develop a safety plan that is tailored to the woman's individual needs.

8.4.4 Wider barriers and facilitators to the identification of perinatal suicidality

Following from the above, screening for suicidality and/or developing appropriate and acceptable approaches for identifying women who may require support inherently relies on HCPs being willing, able and confident to hold such conversations, and for women to feel supported and safe to disclose how they are feeling. Whilst wider barriers and facilitators have been discussed at length in Chapters 4, 5 and 6 of this thesis, it is important to draw upon key factors that may affect suicide-related conversations from taking place in maternity care contexts. Previous literature has shown that stigma, shame, fear, overwhelm and social narratives of what constitutes the "good mother" are significant barriers to women's disclosure of suicidality (Biggs et al., 2023; De Backer et al., 2024; Praetorius et al., 2020; Reid et al., 2022b; Sands Maternity Consortium, 2024; Tabb et al., 2013). Likewise, factors such as a lack of confidence, training and knowledge, time constraints, burden and limited

resources may influence maternity HCPs capacity and receptiveness to initiate suicide-related conversations (Bayrampour et al., 2018; Lau et al., 2015; McCauley et al., 2012; Sambrook Smith et al., 2019; Savory et al., 2022; Viveiros & Darling, 2019; Webb et al., 2023).

The findings of this thesis echo all of the above but also extend previous research to suggest that a paradox of mutual fear persists between perinatal women and maternity HCPs that acts as a central barrier to the detection of perinatal suicidality. Intrinsically, both perinatal women and HCPs recognise the importance of addressing perinatal suicidality. Women want to be helped, and HCPs want to help them. However, both may avoid or minimise the conversation due to distinct but interrelated barriers. For women, complex psychosocial factors (e.g., shame, stigma, judgment, guilt, idealised social norms of motherhood), psychological and emotional factors (e.g., hopelessness, negative self-evaluations, entrapment and despair) and physical and physiological factors (e.g., sleep deprivation, hormonal fluctuations, pregnancy and/or birth related complications) are compounded to create a powerful fear-based barrier to their disclosure of suicidality. This is further exacerbated by the perceived threat that their child may be removed, and/or they may invite unwanted interventions if they share how they are feeling. For maternity HCPs, professional or competency factors (e.g., a lack of training, confidence, support or resources), structural and systemic factors (e.g., time constraints, lack of continuity, limited access to specialist PMH care, unclear pathways), and ethical and legal factors (e.g., responsibility of risk, blame culture, confidentiality and when to escalate) converge to create another powerful fear-based barrier which may undermine their confidence and capacity to initiate suicide-related conversations with perinatal women. Here, the reciprocal dynamic between women's fear of disclosure and maternity HCPs fear of enquiry about suicide can lead to avoidance of the conversation which inhibits the opportunity for timely intervention and appropriate support.

Likewise, evidence shows that the quality of the relationship between patient and caregiver plays an integral role in supporting the disclosure of suicidality. Where there is a strong therapeutic alliance, trust and rapport can be fostered which improves disclosure and help-seeking behaviours (Dunster-Page et al., 2017; Richards et al., 2019a, 2019b; Schultz et al., 2021). It was clear in this research (Chapter 5, Article 3) that women's perceptions of their relationship with maternity HCPs was pivotal to their decision making about suicidal disclosure and their experiences of care. Women spoke of needing to feel heard, respected and supported in a non-judgemental, empathetic and validating manner. If this type of relationship was not present and/or a women's caregiver lacked responsive and sensitive interpersonal skills, then women were more reluctant to share how they felt, which in some cases heightened their sense of unimportance and loneliness. The recent report by Sands Maternity Consortium (2024) reinforced these findings and stressed the need for HCPs to create a safe and compassionate environment for perinatal women where honest and open conversations can take place. Women also talked about the difficulty of forming supportive and consistent relationships due to poor continuity of carer in maternity services. A lack of care continuity is a recognised issue maternity and PMH services (Webb et al., 2023; 2024), and HCPs equally felt that the absence of continuity hindered their ability to build trust with women and their capacity to spot changes in women's mood and/or behaviour across time (Chapter 6, Article 4). Research shows that midwifery continuity of care can improve PMH outcomes (Cibralic et al., 2023).

Overcoming the structural and systemic barriers highlighted in this thesis relies on the continued prioritisation and investment in PMH services (NHS England, 2019), and a further shift towards integrated care models and multidisciplinary working (Carter et al., 2025). Other facilitators to support perinatal suicidal disclosure and identification include providing HCPs with targeted PMH and suicidality training and best practice guidelines, and women

with appropriate PMH and suicidality information. These are discussed further in sections 8.6.3 and 8.6.4 of this chapter. Likewise, previous research has suggested that peer, family and social support are important mediating factors for perinatal women (Arditi-Arbel et al., 2023; Reid et al., 2022a). Studies show that low or moderate levels of social support are associated with an increased risk of perinatal suicidal ideation (Despotis et al., 2025), whereas higher-levels of perceived support can act as a protective factor against it (Hagaman et al., 2024; Kubota et al., 2020; Praetorius et al., 2020; Tabb et al., 2013). Women in this thesis research also spoke of how family and peer support helped them to cope with their distress, and in particular, how building meaningful connections with other new mothers made them feel less alone through shared experiences. Hence, exploring perinatal women's support networks during routine appointments, and signposting peer support groups within and outside PMH services may help to improve outcomes. However, Reid et al. (2024) cautioned that support which is perceived as overbearing and/or diminishes the mother's role as primary caregiver may increase her sense of inadequacy and exacerbate suicidality. It is therefore important that social support is aimed at enabling mothers to gain confidence in their maternal abilities rather than intervening in ways that undermine her position.

8.5 Strengths and limitations of thesis research

Strengths and limitations of the specific studies included in this thesis have been outlined in Chapters 3 to 7. This section focuses on the wider methodological strengths and limitations of the research and discusses recommendations for future work.

8.5.1 Strengths of thesis research

As highlighted in Chapter 1, suicide is a complex and multifaceted phenomenon. Exploring the validity and acceptability of suicidality measures and understanding the barriers and

facilitators that might affect the disclosure and/or identification of perinatal suicidality in maternity care settings requires a multi-perspective and mixed-methodological approach. A key strength of this research was the sequential integration of studies that utilised different methods and participant groups to support and triangulate the findings. Specifically, the suicidality screening measures that were identified in the systematic review (Study 1) were used in Studies 2 and 3 to assess their content validity and acceptability with perinatal women (Study 2), and to explore maternity HCPs attitudes towards them, including potential utility (Study 3). Qualitative data from these two studies also provided rich and in-depth insights into the unique barriers, facilitators and implications of using suicidality screening measures, and the wider factors that affect suicidal disclosure and identification. Taken together, these findings were examined and synthesised to create a new set of suicide-related items that were adapted or developed in line with the prior research. A Delphi study was conducted to examine the content validity, acceptability and potential clinical utility of the new and adapted suicidality items with a panel of experts from related fields (Study 4). The combination of multi-method and multi-perspective approaches enhanced the rigor and depth of this thesis research, and created practical, action-based knowledge that can be applied in both clinical and research contexts.

Another key strength of this research was the recruitment of pregnant and postnatal women up to 24 months post-birth. The NHS England Long Term Plan (2019) is currently expanding availability and access to specialist PMH care from preconception to 24 months postnatal (previously preconception to 12 months) to align with the UK governments commitment to support babies and families for the first "1001 critical days" of life (GOV UK, 2021). This is an important step forward and underscores the need for continued PMH support for mothers beyond the first postnatal year. It is likely that women will experience different changes and challenges during this period, and that their views and experiences of

PMH and/or suicidality may differ across time. The women who took part in this research were representative of this shift in thinking. Hence, the findings reflect barriers, facilitators and implications of identifying and/or discussing suicidality that can occur throughout the first 1001 critical days.

Lastly, women and HCPs who participated in this research commented on the positive impact that taking part had upon their own understanding and experiences of perinatal suicidality, and many felt pleased to have contributed to research that seeks to better the outcomes for future pregnant and postnatal women. Knowing that women and HCPs experiences of being involved in this research was beneficial and meaningful to them is another important strength of the work conducted.

8.5.2 Limitations of thesis research

Despite significant efforts to capture the views and experiences of perinatal women and maternity HCPs from diverse ethnic, racial and cultural groups, the participants recruited for this research were predominantly White British. Evidence suggests that pregnant and postnatal women from ethnic minority groups experience complicated and multi-layered PMH barriers, both in terms of disclosure and identification, and in relation service provision, and they are often underrepresented in research (Bains et al., 2023; Conneely et al., 2023; Jankovic et al., 2020; Jovanović et al., 2024; Pilav et al., 2022). Data from MBRRACE-UK (Felker et al., 2024) also shows that Black women are three times more likely, and women from Asian backgrounds are two times more likely to die during pregnancy or up to six-weeks after birth, which underscores the potential disparities and cultural barriers that may affect some women's access to care. Likewise, maternity HCPs from differing ethnic, racial or cultural backgrounds may have their own beliefs and perceptions about PMH and suicidality that influence how they approach conversations about suicide with perinatal

women and/or how receptive they are towards women who may require additional PMH support. Research also shows that LGBTQ+ persons are more vulnerable to PMH difficulties, and they often experience negative and invalidating experiences with HCPs and inequality in appropriate care (Darwin & Warwick-Guasp, 2025). It is therefore important for future research into perinatal suicidality and the acceptability of suicide-related screening approaches to include the views of women, birthing persons and HCPs from diverse groups, as their views may differ to those expressed in this work.

Sample limitations of this research may also include self-selection bias and/or demand characteristics such as social desirability bias. Self-selection bias can occur when people choose to participate in certain research because they have a particular interest, familiarity or association with the phenomenon of inquiry (Florczak, 2022). Social desirability bias is a tendency for people to share information or answer questions in a way that they perceive will be viewed favourably, particularly when addressing sensitive topics (Bergen & Labonté, 2020; Krumpal, 2013). Whilst self-selection bias is almost inevitable in qualitative research (and depending on the methodological approach, it may be essential i.e., grounded theory), this research actively sought to recruit women who had and who had not experienced PMH difficulties and suicidality during the perinatal period. However, the participants who chose to take part may have had a greater awareness and readiness to engage in conversations about suicide than other perinatal women who were less comfortable with the topic. This may mean that women from more vulnerable groups and/or those who had not previously shared their views and/or experiences regarding PMH and suicidality with anyone before were missed. Similarly, given the highly personal and sensitive nature of the subject, some women may have been deterred from taking part due to perceived stigma, judgment or risk, including safeguarding concerns. Equally, these factors may have also affected the way in which some women who did take part shared their views and experiences. That is, women may have been

cautious about the information they shared and/or filtered their responses due to social desirability biases. Whilst the researcher took a reflexive and considered approach throughout the interview process (see Chapter 2, section 2.7), and there was no suggestion in the data collected that these influences had occurred, the potential existence of them cannot be overlooked.

Fragmented care provision and access to PMH services may have also impacted the study findings. Perinatal women were recruited from across the UK, which meant that their experiences of PMH care differed significantly. Some women spoke of good quality and accessible PMH care, whereas others said that they received limited PMH support due to a lack of provision in their geographical area. Whilst these types of contextual factors are not a limitation of the research per se (to some extent they are a strength and illustrate representativeness), these disparities will have undoubtedly shaped women's experiences and views regarding this topic. This is equally true of the HCPs that took part. PMH services vary considerable between different NHS trusts (Johnson et al., 2023; MMHA, 2024; Royal College of Midwives, 2023) and this will have affected HCPs experiences of PMH screening and their preparedness and capacity to discuss suicidality with perinatal women.

It is also acknowledged that the views expressed in this research may not reflect those of perinatal women who are actively suicidal, in crisis and/or in acute settings. Although some women who participated had previously received specialist inpatient care in Mother and Baby Units (MBUs), they were not experiencing suicidality at the time when the research interviews took place. Women who are experiencing current suicidal crisis may feel differently about the acceptability and appropriateness of suicide-related measures to those who are reflecting on these tools from a more distanced position, and this is an important priority to address.

Future work should incorporate coproduced and/or participatory action approaches to further develop and enhance the research conducted here (Donetto et al., 2015). These types of methods have not been widely used in perinatal suicidality research to date, but they represent a critical next step for engaging with and centralising the needs, views, and experiences of more diverse and hard-to-reach perinatal populations (Perinatal Redesign for Accessing Mental health Services [PRAMS], 2025). By actively collaborating with women and birthing people from different perinatal groups (e.g., ethnically and sociodemographically diverse communities, clinical groups – including neurodivergence, and LGBTQ+ persons) the findings of this research could be built upon and strengthened in the following ways: (i) ensuring that approaches for identifying and discussing perinatal suicidality, and the development of perinatal specific suicidality measures are inclusive, culturally appropriate, and sensitive to the experiences of all perinatal persons; (ii) identifying and addressing any gaps that were beyond the scope of this research; and (iii) highlighting inequities, barriers and facilitators in underserved perinatal groups to improve access to appropriate support.

8.6 Implications for practice, policy and research

The followings sections outline the implications of this thesis research for practice, policy and future research, focusing on four main areas: further development and validation of suicide-related items; development of best practice guidelines for HCPs; development of appropriate PMH and suicidality information for perinatal women and their families; and intervention priorities for women experiencing perinatal suicidality. The key overarching take-home message for practitioners and policymakers is also summarised at the end of this section.

8.6.1 Further development and validation of suicide-related items

Following from the main considerations in section 8.4, the Delphi consensus study included in this research (Chapter 7, Article 5) represents an important step towards the development of specific suicidality measures for use with pregnant and postnatal women in both clinical and research contexts. The 14 items that reached group consensus offer a basis for further evaluation (see Table 8.2 for a items that achieved consensus). These items now require robust psychometric and qualitative assessment to determine their validity, reliability and utility in diverse perinatal populations. This includes examining how well the items perform across different types of perinatal samples and settings (e.g., antenatal and postnatal, clinical and non-clinical), and exploring their content validity and acceptability from multiple perspectives (e.g., perinatal women, HCPs etc.). It is also important to assess the cultural relevance and appropriateness of these items with women from different ethnic, racial and cultural groups, and to co-produce the research with women who have lived-experience of perinatal suicidality. Similarly, qualitative research with LGBTQ+ birthing persons is crucial for ensuring that diverse experiences are captured, and to inform the use of inclusive and non-gendered language in the further development of perinatal specific measures.

Likewise, the clinical purpose and real-world application of these items needs to be considered. That is, whether specific items can be grouped to create a brief screening measure for perinatal suicidality, if singular items can be used as standalone indicators (e.g., of suicidal ideation, suicidal behaviours, or suicide plans), and/or whether certain items can be embedded within broader assessments of PMH. This also has implications for the way in which items are administered (e.g., universal or targeted screening), by who and when (e.g., HCPs in primary maternity care, specialist PMH services, or both), and for determining the cut offs and clinical actions that follow if a woman endorses suicidality. Future research

needs to address these parameters (and others), along with the feasibility of implementing perinatal specific suicidality measures into clinical practice.

Table 8.2 Suicide-related items that achieved Delphi consensus

Item content	Response options and scoring
SUICIDAL AND/OR SELF-HARM IDEATION	
Have you had thoughts about hurting yourself in some way, or of not wanting to be alive?	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
SUICIDAL IDEATION (PASSIVE AND/OR ACTIVE IDEATION)	
Have you had thoughts about ending your own life?	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
Have you had thoughts about suicide?	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
Have you had thoughts that you don't want to be alive?	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
Have you had thoughts that you don't want to be alive, or of ending your life?	Never [0], Sometimes [1], Quite often [2], Most of the time [3]
SUICIDE PLANS	
Have you had thoughts about how you might end your life?	No [0], Yes [1]
Have you made plans to end your own life?	No [0], Yes [1]
SUICIDAL BEHAVIOUR	
Do you feel there is an immediate risk that you will attempt to end your own life?	No [0], Yes [1]
Have you made preparations to end your own life?	No [0], Yes [1]
Have you taken steps to end your own life (for example, obtaining pills or equipment)?	No [0], Yes [1]

SUICIDE ATTEMPT	
Have you attempted to end your life in some way?	No [0], Yes [1]
Have you made any suicide attempts?	No [0], Yes [1]
SUICIDALITY HISTORY	
Have you experienced suicidal thoughts in the past?	No [0], Yes [1]
Have you attempted to end your own life in the past?	No [0], Yes [1]

Notes: (i) all items in this table achieved Delphi consensus, however items in **bold** are recommended for use based on consensus rankings and findings from wider qualitative research; (ii) items should be framed in the perinatal context (e.g., since becoming pregnant, since the birth of your baby, since we last met etc.); (iii) items can either be used in isolation or in various combinations depending on need and purpose; (iv) following the screening item(s), subsequent questions may not need to be asked if a women expresses no suicidality.

8.6.2 Development of best practice guidelines for HCPs

Chapter 6 highlighted the need for suicidality and PMH training to be made available to all HCPs working with pregnant and postnatal women in primary care settings, and the recent report by Sands Maternity Consortium (2024) stressed the importance of suicide education and awareness raising for those who come into contact with perinatal women. This is necessary for supporting HCPs capacity, confidence and willingness to engage in suicide-related conversations, and for ensuring that appropriate, person-centred approaches are universally adopted in maternity care contexts. However, the initiation of such conversations also relies on there being clear and accessible pathways for HCPs to make onward referrals, which is a significant barrier in these settings. It is important that HCPs feel able, equipped and aware of how to respond to suicidality disclosure, else they may avoid asking perinatal women about it.

The development of formal best practice guidelines for how to appropriately approach suicide-related conversations with perinatal women was beyond the scope of this research. However, the findings do provide empirical evidence that can be used to inform future work. As such, key points that have been developed from the findings of this research are in Box 2. These are important to consider and include in the development of future guidelines for HCPs who work with perinatal women in primary care settings:

1. Be aware of the barriers that may prevent perinatal women from disclosing suicidality (e.g., stigma, social expectations, fear of child protection and/or unwanted intervention) and tailor conversations to reduce these concerns

2. Be curious about wider risk factors for perinatal suicidality

3. Adopt cultural sensitivity and be open to different concepts of PMH and suicidality

4. Acknowledge diversity and be inclusive and respectful of differing gender identities

5. Conduct PHM and suicide-related conversations in a private and safe environment

6. Sensitively frame PMH and suicide-related conversations in the perinatal context (e.g., as being a time where changes to mood and mental health can occur)

7. Normalise enquiries about PMH and suicidality by explaining why questions are being asked, and focus on appropriate and available support

8. Use clear, acceptable, non-judgemental and non-stigmatising language

9. Provide women with choice in how they would like to complete any relevant screening measures (e.g., by themselves, or with their maternity care provider)

10.Use screening measures as part of a conversation, but do not solely rely on them, or use them for risk or diagnostic purposes

11. Demonstrate empathy and responsiveness to validate women's feelings and experiences

12. Respond to suicidality disclosures calmly and supportively, with a focus on individual circumstances and needs

Box 2. Key points developed from the findings of the thesis research

8.6.3 Development of appropriate PMH and suicidality information for perinatal women and their families

Chapters 4 and 5 highlighted the need for all perinatal women to receive appropriate and proportionate information about PMH and suicidality from the earliest opportunity. This should be an active and universal part of a woman's first antenatal booking appointment, with resources available for her to take home. Likewise, there is growing recognition of

understanding and addressing PMH through a wider family lens (Bergunde et al., 2024). As such, PMH information should also be made available and tailored towards the needs of partners, fathers and wider family members to support and involve them in a woman's care, and to support their own mental health needs (Darwin et al., 2021; Fisher et al., 2024). This provision of information is important for: (i) promoting early recognition of symptoms; (ii) reducing stigma and normalising PMH and conversations; (iii) encouraging timely help-seeking behaviours; (iv) informing perinatal women (and their families) about the types of support and services that are available; and (v) improving outcomes for perinatal women, their babies and families. Future research should draw upon the findings of this research and co-produce information with perinatal women from diverse groups, partners/fathers, and LGBTQ+ birthing persons who have lived experience of PMH and suicidality, and who have received different types of PMH care. It is also important that this information is developed with the mother in mind to ensure that it is relevant and balanced without causing undue distress or worry.

8.6.4 Intervention priorities for women experiencing perinatal suicidality

There is limited research that has addressed intervention priorities for perinatal women who are experiencing suicidality, which is a critical area for future research. A recent systematic review (Scarth et al., 2025 [preprint]) examined interventions for suicidal behaviour in perinatal women, but their results only yielded five eligible studies. Of these, all were quantitative and most looked at pharmaceutical or electro-convulsive therapy (ECT). The authors reported that many of the studies were of below average quality, and that work is urgently needed to develop and assess more holistic and whole-family approaches to suicide interventions for perinatal women. Likewise, Reid et al. (2023) used a Q-methodology to explore priorities for psychological interventions to reduce perinatal suicidality. Their

findings indicated that developing collaborative strategies to keep women safe when suicidal ideation peaks and/or intensifies is a key aspect for future intervention design. Reid et al. (2023, 2024) also highlighted the importance of supporting new mothers to reframe their perceptions of self and their babies to overcome feelings of inadequacy, and to strengthen the mother-infant bond.

Here, video feedback interventions for positive parenting (VIPP) may be one approach that might help mothers experiencing suicidality to develop maternal confidence and challenge negative self-appraisals. VIPP is an attachment-based intervention whereby mother-infant interactions are video recorded and then played back to the mother with the inclusion of sensitively framed structured feedback from a clinician (Juffer et al., 2017). This approach supports mothers to recognise subtle positive interactions that occur with their babies, which is beneficial for fostering maternal self-efficacy. Barnicot et al. (2022, 2023, 2024) have adapted VIPP for perinatal women suffering from personality disorders and for women experiencing moderate to severe PMH difficulties. Their findings have shown improvements in mothers' confidence and their perceptions of the mother-infant bond, which supports the potential utility of using VIPP with women experiencing postnatal suicidality. Future research should explore adapting VIPP for this purpose.

8.6.5 Key take-home message for practitioners and policymakers

The findings of this research have highlighted the need for integrated, person-centred, culturally sensitive, and inclusive approaches for identifying and discussing perinatal suicidality which are embedded within clear, safe and responsive stepped-care pathways. Key recommended changes to current practice, policy, and guidelines include: (i) HCPs actively creating multiple disclosure opportunities across the perinatal period as part of a wider compassionate and informed conversation about PMH and suicidality; (ii) targeted suicidality

training for all practitioners working with perinatal women to equip them with the necessary skills to sensitively initiate and hold suicide-related conversations with people from diverse perinatal groups; and (iii) where appropriate and available, HCPs to use validated, acceptable, effective and clinically useful perinatal specific suicidality screening tools to support the initial identification and discussion of suicidality (although such tools should not be used in isolation, nor should they be used to stratify suicide risk) and to support early decision-making around further biopsychosocial assessment, escalation, and/or referral for appropriate treatment. At a service-level, these changes need to sit within a robust, equitable, multidisciplinary and coordinated maternity care system where there are clear and accessible pathways for timely follow-up.

8.7 Impact and dissemination of thesis research

In the following sections, the impact and dissemination of this thesis research is discussed, both in terms of academic and clinical impact, and actual and anticipated impact.

8.7.1 Academic impact

This thesis research has made an important contribution to current knowledge in the fields of PMH, suicidality, and applied health research. Five academic papers have been published in high impact open access peer-reviewed journals, which advances scholarship and reach to a global audience. Findings have been presented at twelve academic conferences both within the UK and internationally (see Appendix N). These include specialist symposia and as an invited guest speaker at a perinatal suicide conference hosted by the University of Jaen, Spain, which underscores the international recognition of the research's scholarly relevance. Insights from this research have also informed teaching content for the postgraduate Perinatal

Mental Health module at City St George's, University of London, which ensures that current evidence-based knowledge is being integrated into professional education.

Future academic impact is anticipated through continued citation of the published work, and its potential to shape the focus and design of new research in this area, including application for substantial relevant grant applications.

8.7.2 Clinical and practical impact

This thesis research provides new knowledge that informs how perinatal suicidality can be more appropriately discussed and identified in maternity care settings. These insights are particularly relevant to midwifery, health visiting, and GPs (etc.), and can contribute to the development of best practice guidelines and recommendations. The suicide-related items that achieved expert consensus in Chapter 7 (Article 5) also show promise for informing current practice and research, and provide an empirically grounded basis for the development of new perinatal specific suicidality measures. This represents a concrete and actionable step towards improving the initial identification of suicidality in pregnant and postnatal women, as part of a wider approach.

These findings are already being translated into practice. This research is currently informing the development of an eLearning programme on perinatal suicide prevention which will be delivered by Grassroots Suicide Prevention, a leading UK charity in this field. The training is aimed at a wide range of professionals who work with perinatal women including midwives, health visitors, GPs, social workers, and voluntary sector providers. It is being designed to strengthen practitioner knowledge, confidence, and practical skill in asking about and responding to suicidality in perinatal women.

Further impact is emerging through academic and clinical networks. The findings from this research have prompted plans to work collaboratively with authors of existing PMH

measures to update and revalidate their content for modern contexts. This is important for reducing misinterpretation and improving the clarity, accuracy, usability and cultural relevance of measures that are currently widely used with perinatal women.

8.8 Conclusion

This thesis research has contributed comprehensive and novel insights to our existing knowledge regarding appropriate and acceptable approaches for exploring and measuring perinatal suicidality in maternity care contexts. Specifically, the research highlighted factors that affect the disclosure and/or identification of perinatal suicidality in these settings, including the implications of suicide-related screening measures and their content, and individual, interpersonal, social, cultural and systemic barriers and facilitators. Across four integrated studies, this research consistently identified limitations of current suicide-related screening items and approaches, and it sought to address these shortcomings by developing an empirically based set of acceptable and appropriate items that can be used to support the early identification of perinatal suicidality in both applied and research settings. This research has also offered unique insights regarding the factors that may help to facilitate and support perinatal women in disclosing suicidality to HCPs, and it has highlighted the implications and needs of maternity HCPs for initiating and engaging in suicide-related conversations within the scope of their role. In sum, the knowledge and findings presented in this thesis can help to inform current practice, policy and future research in this area, and it makes a significant contribution to global suicide prevention efforts which strive to minimise the devasting impact of maternal suicide deaths.

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Appendices

Appendix A – Patient and public involvement (PPI) in research proposal

Feedback 1:

1. Project aims and objectives - is there a need for this research? Do you agree with the rationale? Is this topic important/not important to you?

I strongly agree that there is a need for this research, and the rationale makes an enormous amount of sense to me. This topic is extremely important to me. I can actually draw on personal experience – not that I ever felt suicidal after the birth of my first child, but, having had essentially stable mental health (I suffered anxiety in my twenties, but this is very common and a product of 21st century life), I was shocked by how unstable I felt a few days and months after the birth of my son. If I had not had a very strong and supportive husband and family, I can only wonder how much worse I would have felt. I would also know that in that state of high anxiety, confusion and fatigue, I would have no way known who to reach out to, or indeed felt confident reaching out, as I would have been concerned that it might impact on my viewed abilities and aptitude as a mother and might even result in an intervention by the authorities.

2. Project methods - how might it be best to attract, recruit and retain people as research participants?

I think you would best attract recruit and retain people by creating some form of information pack/point provided in early pregnancy, maybe at the booking appointment. This should be offered to everyone, not just people with previous history of mental health disorders: This will stop people a. feeling stigmatized or b. slipping through the net, if they do not show 'classic signs' or have history. The information should take great care to reassure women that they are not going to be judged or have the information they share about their mental state used against them in anyway. I think it would also be valuable to highlight that used correctly this research, is in fact really positive, that even if you feel this way you are still/or will be a wonderful parent and could through not a huge amount of intervention it could catch something early and set the path very differently for someone that may show signs of feeling desperate and suicidal in these early stages of parenthood or pregnancy.

3. What ethical issues and concerns can you foresee? How might it be best to support participants during the research?

This answer refers back to points made in question 2. The ethical concern is that the information garnered from this research, could in some way be used as a case against the participant and their ability as a parent by the authorities. But this in turn raises another point that needs considering, in that, if the study kicks up signs that a person that is showing suicidal tendencies, how can you turn a blind eye to this information? I suppose you would need to almost know the planned treatment path, before you start the research, so you can set potential participants of the research on it if needs be. I think participants would be best supported by knowing that they will be looked after and supported by the system if the research throws up that they are displaying signs of SI.

4. How might it be best to communicate the difference (impact) the project makes?

There are many ways, but I would say off the top of my head, probably some real-life case studies. Nothing speaks louder than a real-life scenario rather than just the hypothetical. Having seen the stats in the earlier part of this paper, I suspect creating these case studies would be possible as there are probably many more people who would benefit from the research let alone this leading to the tool being made available in the future.

5. Are there any other suggestions you have for how this research topic could be addressed beyond that which is planned?

I think that the proposal for this research project is thorough and clear, plus it is practical, and I would say most likely resourceful, given it is largely internet/questionnaire based. As always, I think that where possible face to face contact is likely to get the most truthful and candid assessment of the patient as people do tend to sometimes lose their nerve writing stuff down as they think it could be used against them in some way. So, I think the human element/interview stage to the research is very important.

<u>Feedback 2:</u>

1. Project aims and objectives – is there a need for this research? Do you agree with the rationale? Is this topic important / not important to you?

I think that this subject is particularly relevant, especially given the recent heightened media coverage on suicide. Although current coverage isn't specifically focused on perinatal suicide, there is currently a very heavy focus on male suicide, which is not a negative thing, but until reading this proposal, I had not personally realised the prevalence of suicide in maternal

death. I think therefore there is a need for this research and more needs to try and identify this specific phenomenon in ante and postnatal women and also raise awareness. The proposal writes that 'current tools for detecting mental health disorders during pregnancy and/or in the postpartum are limited by a focus on depression and anxiety.' From my experience, throughout my pregnancy and postpartum, I can agree with this statement wholeheartedly. Although I have not had ante or postpartum depression or anxiety, during my pregnancy and after, it was obvious that healthcare professionals (through questioning and the information available to me) had a clear focus on identifying potential symptoms of both depression and anxiety in women.

2. Project methods - how might it be best to attract, recruit and retain people as research participants?

I think transparency and consistent communication are two important factors in getting women involved in the research project. Highlighting that suicide is the 'third largest cause of direct deaths occurring during or within 42 days of the end of pregnancy' and other such statistics are a hugely useful tool in outlining the relevance of the research proposal. As a participant of a research trial (although entirely different subject) in my labour process, I decided to partake as it was emphasised to me that the outcomes of my experiences could help make future women (potentially myself in future pregnancies) more comfortable. Therefore, I think to recruit women, it is best to focus on the long-term benefits of the research projects, whilst also highlighting the mitigations for any risks that there might be from participating. In terms of retention of participants, I found that the contact pre and post research trial were fantastic (introduction/follow up) however, during the actual process, there was very little awareness amongst the healthcare professionals that I encountered of the trial. It is important that the research programme factors in consistent levels of communication to thank participants and also keep them informed with relevant progress in the trial.

3. What ethical issues and concerns can you foresee? How might it be best to support participants during the research?

Study 2 will be the phase of the research which I think will raise the most ethical issues - I found during my pregnancy I was especially hormonal and suicide is a particularly sensitive subject - that combination is potentially volatile and could raise concerns amongst participants. Especially for any subjects that have previously suffered from SI in the past, people may be reluctant to participate or continue with the research after initial consultations.

Having sufficient resources (both personnel and written) for women and families involved, and in the same way that consistent and regular contact is important for the retention of participants, it will also provide support for them. It may also be beneficial to bring all the participants together in a group format, so that they have a network of support amongst themselves a well, although I don't know if this will potentially skew any data.

4. How might it be best to communicate the difference (impact) the project makes?

I think that information, specifically statistics, presented in a clear and concise fashion. I personally benefit from reading statistics and find that they have the biggest impact on my opinion on matters. Whilst I found reading the proposal relatively straightforward (given the brevity), it might be easier to present the extracted statistics in a more visual format for the purpose of outlining the intentions of the study. The most striking thing from reading the proposal was the levels of suicide perinatally and also that SI could occur independently of depression and anxiety, of which there is so much focus on during pregnancy and postpartum. It would also be good to eventually, communicate the findings of the research project, as people like to know the outcome of projects that they have been involved in.

5. Are there any other suggestions you have for how this research topic could be addressed beyond that which is planned?

None - looks a thorough approach to an area of maternal mental health that is currently not fully understood or recognised. There is a need for a screening process for this in pregnancy and postpartum and this research project looks to achieve that.

Appendix B – Ethical protocols for safeguarding participant and researcher wellbeing



Ethics protocol and procedures for thesis research Studies 2 and 3

Informed consent

Participants will only be invited to take part in this study if they are not currently experiencing suicidal thoughts, suicidal and/or self-harming behaviours, and/or are risk of suicide. This exclusion criteria will be clearly stated on the recruitment/advertising flyers, in a covering letter that will be sent to all participants who express an interest in the study and in the 'participant information sheet'. It is important that participants fully understand the aim of this research and what their participation will involve. If a participant meets the eligibility criteria, they will be sent an information pack which includes all the documents necessary to make an informed decision as to whether they would like to take part in the study or not (e.g., sample consent form, detailed participant information sheet, list of useful mental health resources/services etc).

If a potential participant decides to take part, they will be asked to complete the consent form (and some brief demographic information) via an online platform (Qualtrics) before an interview is scheduled. The content of the online consent form will mirror that of the consent template the participant was sent in the information pack. Once consent is received, the lead researcher (Elizabeth Dudeney, ED) will then contact the participant to ask if they are still happy to take part in the study, and to arrange a convenient time for the interview. In line with the principle of consent being an ongoing process, the researcher will also ask the participant to provide verbal consent at the start of the online or telephone interview.

Participants will be explicitly reminded throughout the study (from expressing their initial interest in participating, through to the post-interview debriefing) that their involvement is entirely voluntary and that they can withdraw from the study at any stage, up until the point of data analysis, without needing to provide a reason. Participants will also be encouraged to ask any questions they might have during each interaction with the researcher.

Minimising participant distress

Together with the supervisory team, who all have extensive experience with gaining ethical approval for and conducting perinatal mental health and/or suicide research, procedures will be put in place to safeguard the wellbeing of participants and the researcher(s). Any signs of participant psychological distress e.g., verbal and non-verbal cues, such as long pauses, confusion, emotional reactions and disclosures will be monitored by the lead researcher (ED) throughout the interview. If any participant appears to be distressed, the following 'stepped' approach will be followed:

- The researcher will offer to pause the interview, ask if the participant would like to skip certain questions or withdraw from the study.
- The researcher will listen to the participant sensitively and suggest that they seek additional support (e.g., from their GP, midwife or health visitor), if appropriate.
- The researcher will also offer to talk through the resource list of mental health helplines/services with the participant – which was sent to them in their initial info pack – should they wish.
- In the unlikely event that a participant discloses any indication of current suicidality and/or self-harming behaviours, the researcher will follow the steps outlined in the following paragraph ('Participant safety').

Participant safety

If any participant indicates that they may be experiencing current suicidality during the interview (either by endorsing one or more of the suicidality questions asked, or during the semi-structured discussion), or that they may be at risk of harm to themselves or others, privacy and confidentiality will not be absolute. In this scenario, the lead researcher (ED) will sensitively end the interview and follow the procedure outlined below:

- After gaining the participants permission, the researcher will conduct a brief suicide assessment using a standardised list of questions.
- If the participant answers YES to any of the assessment questions, the researcher will then contact Prof Susan Ayers to seek timely advice regarding the most appropriate next steps to take. Prof Ayers has agreed to be the Clinical Lead for this study and will be on call during each interview.

- Next steps may involve asking the participant if we can contact their GP or another suitable healthcare professional (e.g., midwife, health visitor) on their behalf.
- It is not anticipated that we will need to call 999, but if a situation presented itself where this was necessary, we would take that course of action.

Following from this point, interviews will only take place Monday to Thursday, between 9am to 4pm. If an issue does arise, and/or a risk assessment is conducted, City University's formal procedure will immediately be followed by reporting the event to either the Chair of the SHS REC or the Chair of the SREC (depending on whether the issue involved a perinatal participant or healthcare practitioner participant) and the lead researcher (ED) will complete an 'Adverse Events or Untoward Incidents Report' via Research Manager.

Privacy and confidentiality

Upholding privacy and confidentiality are of key importance. All study related documents will be treated as confidential and stored securely. Only the lead researcher (ED) and the supervisory team will have access to the study data. A Data Protection Impact Assessment (DPIA) Threshold Test has also been carried out, and the data risks have been deemed 'mitigated' for this study.

Due to the COVID-19 pandemic, participant consent and demographic information will also be obtained virtually (e.g., online via Qualtrics). All interviews will be audio-recorded with a City University approved encrypted device. Each audio recording will be uploaded to the lead researchers (ED) City OneDrive account immediately after the interview, using WinZip to password protect them and ensure they are held securely. Audio recordings will then be permanently deleted from the audio-recording device. Audio recordings will be transcribed verbatim by the lead researcher (ED) and fully deidentified before analysis begins. Participants will be assigned a unique ID number and the lead researcher (ED) will create an electronic document for the participant identifiers (ID number) to be stored, which along with the transcripts, and other electronic data, will be saved using password protected files and backed up to the lead researchers City OneDrive. The list of participant ID numbers will be kept in a separate digital folder from the other electronic data.

In the unlikely event that a participant discloses something that may put themselves or someone else at risk of harm, confidentiality may be breached. In this scenario, it may be necessary to report the issue to an appropriate person.

Data handling and storage

The lead researcher (ED) has been provided with a City University approved laptop (on loan) which will be used to handle and securely store the study data, as outlined above. This laptop will be password protected, as will each individual file that contains research data, and all files will be backed up onto the lead researchers City OneDrive account. This will ensure that in the unlikely event that the laptop is lost or stolen, the data will be protected. It is not anticipated that any physical documents containing participants' names (e.g., consents etc.) or demographic information will be collected.

The research data generated by this study, and the personal data collected from participants will be kept and securely stored for 10 years after the study ends. After this time, all data (e.g., electronic files) will be permanently deleted. Data will be stored and handled in line with current GDPR and the Data Protection Act 2018.

Health and safety of the researcher

The lead researcher (ED) has prior experience in conducting qualitative research on sensitive topics, and she previously worked at a suicide prevention charity (completing several training programmes that are highly relevant to this topic). However, we appreciate that it is also important to look after the researchers' own mental health wellbeing when conducting research on sensitive topics (e.g., in case topics arise that are potentially distressing to them). As such, the lead researcher (ED) will schedule weekly welfare supervision sessions with Dr Rose Coates from the start of the study – which will continue until its completion – to ensure that she is not being negatively affected by the research content in any way

Appendix C – Formal documentation of research ethics approvals



Dear Liz

Reference: ETH2122-0757

Project title: An interview study with pregnant and postnatal women to explore the acceptability of being asked different questions about suicide

Start date: 21 Apr 2022

End date: 30 Sep 2022

I am writing to you to confirm that the research proposal detailed above has been granted formal approval from the Senate Research Ethics Committee. The Committee's response is based on the protocol described in the application form and supporting documentation. Approval has been given for the submitted application only and the research must be conducted accordingly. You are now free to start recruitment.

The approval was given with the following conditions:

- ...
- ...
- ...

Please ensure that you are familiar with City's Framework for Good Practice in Research and any appropriate Departmental/School guidelines, as well as applicable external relevant policies.

Please note the following:

Project amendments/extension

You will need to submit an amendment or request an extension if you wish to make any of the following changes to your research project:

- Change or add a new category of participants;
- Change or add researchers involved in the project, including PI and supervisor;
- Change to the sponsorship/collaboration;
- Add a new or change a territory for international projects;
- Change the procedures undertaken by participants, including any change relating to the safety or physical or mental integrity of research participants, or to the risk/benefit assessment for the project or collecting additional types of data from research participants;
- Change the design and/or methodology of the study, including changing or adding a new research method and/or research instrument;

- Change project documentation such as protocol, participant information sheets, consent forms, questionnaires, letters of invitation, information sheets for relatives or carers;
- Change to the insurance or indemnity arrangements for the project;
- Change the end date of the project.

Adverse events or untoward incidents

You will need to submit an Adverse Events or Untoward Incidents report in the event of any of the following:

a) Adverse events

b) Breaches of confidentiality

c) Safeguarding issues relating to children or vulnerable adults

d) Incidents that affect the personal safety of a participant or researcher

Issues a) and b) should be reported as soon as possible and no later than five days after the event. Issues c) and d) should be reported immediately. Where appropriate, the researcher should also report adverse events to other relevant institutions, such as the police or social services.

Should you have any further queries relating to this matter, please do not hesitate to contact me. On behalf of the Senate Research Ethics Committee, I do hope that the project meets with success.

Kind regards

Richard Ashcroft

Senate Research Ethics Committee

City, University of London

Dear Liz

Reference: ETH2122-0828

Project title: An interview study with healthcare practitioners working in maternity care to explore the acceptability of administering different suicidality questions.

Start date: 17 Feb 2022

End date: 30 Sep 2022

I am writing to you to confirm that the research proposal detailed above has been granted formal approval from the School of Health Sciences Research Ethics Committee. The Committee's response is based on the protocol described in the application form and supporting documentation. Approval has been given for the submitted application only and the research must be conducted accordingly. You are now free to start recruitment.

Please ensure that you are familiar with City's Framework for Good Practice in Research and any appropriate Departmental/School guidelines, as well as applicable external relevant policies.

Please note the following:

Project amendments/extension

You will need to submit an amendment or request an extension if you wish to make any of the following changes to your research project:

- Change or add a new category of participants;
- Change or add researchers involved in the project, including PI and supervisor;
- Change to the sponsorship/collaboration;
- Add a new or change a territory for international projects;
- Change the procedures undertaken by participants, including any change relating to the safety or physical or mental integrity of research participants, or to the risk/benefit assessment for the project or collecting additional types of data from research participants;
- Change the design and/or methodology of the study, including changing or adding a new research method and/or research instrument;
- Change project documentation such as protocol, participant information sheets, consent forms, questionnaires, letters of invitation, information sheets for relatives or carers;
- Change to the insurance or indemnity arrangements for the project;
- Change the end date of the project.

Adverse events or untoward incidents



You will need to submit an Adverse Events or Untoward Incidents report in the event of any of the following:

a) Adverse events

b) Breaches of confidentiality

c) Safeguarding issues relating to children or vulnerable adults

d) Incidents that affect the personal safety of a participant or researcher

Issues a) and b) should be reported as soon as possible and no later than five days after the event. Issues c) and d) should be reported immediately. Where appropriate, the researcher should also report adverse events to other relevant institutions, such as the police or social services.

Should you have any further queries relating to this matter, please do not hesitate to contact me. On behalf of the School of Health Sciences Research Ethics Committee, I do hope that the project meets with success.

Kind regards

Alison Welton

School of Health Sciences Research Ethics Committee

City, University of London

Dear Liz

Reference: ETH2223-0074

Project title: Development and consensus on questions to measure perinatal suicidality: A Delphi study

Start date: 1 Nov 2022

End date: 30 Mar 2023

I am writing to you to confirm that the research proposal detailed above has been granted formal approval from the Maternal and Child Health Proportionate Review Committee. The Committee's response is based on the protocol described in the application form and supporting documentation. Approval has been given for the submitted application only and the research must be conducted accordingly. You are now free to start recruitment.

Please ensure that you are familiar with City's Framework for Good Practice in Research and any appropriate Departmental/School guidelines, as well as applicable external relevant policies.

Please note the following:

Project amendments/extension

You will need to submit an amendment or request an extension if you wish to make any of the following changes to your research project:

- Change or add a new category of participants;
- Change or add researchers involved in the project, including PI and supervisor;
- Change to the sponsorship/collaboration;
- Add a new or change a territory for international projects;
- Change the procedures undertaken by participants, including any change relating to the safety or physical or mental integrity of research participants, or to the risk/benefit assessment for the project or collecting additional types of data from research participants;
- Change the design and/or methodology of the study, including changing or adding a new research method and/or research instrument;
- Change project documentation such as protocol, participant information sheets, consent forms, questionnaires, letters of invitation, information sheets for relatives or carers;
- Change to the insurance or indemnity arrangements for the project;
- Change the end date of the project.

Adverse events or untoward incidents

You will need to submit an Adverse Events or Untoward Incidents report in the event of any of the following:



a) Adverse events

b) Breaches of confidentiality

c) Safeguarding issues relating to children or vulnerable adults

d) Incidents that affect the personal safety of a participant or researcher

Issues a) and b) should be reported as soon as possible and no later than five days after the event. Issues c) and d) should be reported immediately. Where appropriate, the researcher should also report adverse events to other relevant institutions, such as the police or social services.

Should you have any further queries relating to this matter, please do not hesitate to contact me. On behalf of the Maternal and Child Health Proportionate Review Committee, I do hope that the project meets with success.

Kind regards

Alison Welton

Maternal and Child Health Proportionate Review Committee

City, University of London

Appendix D – Study 1 – Systematic review: Search strategies per database

SCOPUS

(TITLE-ABS-KEY (*pregnan** OR **natal* OR **partum* OR *matern** OR *mother**) AND TITLE-ABS-KEY (*measure** OR *assess** OR *diagnos** OR *screen** OR *questionnaire* OR *scale* OR *instrument* OR *method* OR *tool*) AND TITLE-ABS-KEY (*suicid** OR *self-harm** OR *self-injur** OR *parasuicid** OR *"ending own life"* OR *"taking own life"* OR *"thoughts of death"*)) AND (LIMIT-TO (LANGUAGE , *"English"*))

MEDLINE

S1. exp PREGNANCY+
S2. exp POSTPARTUM PERIOD+
S3. exp MOTHERS
S4. exp PERIPARTUM PERIOD
S5. exp MATERNAL HEALTH
S6. (pregnan* or *natal or *partum or matern* or mother*) ti, ab
S7. S1 OR S2 OR S3 OR S4 OR S5 OR S6
S8. exp OUTCOME ASSESSMENT (HEALTH CARE)+
S9. (measure* or assess* or diagnos* or screen* or questionnaire or scale or instrument or method or tool) ti, ab
S10. S8 OR S9
S11. exp SUICIDE+ or exp SUICIDE, ATTEMPTED
S12. exp SUICIDAL IDEATION
S13. exp MATERNAL DEATH
S14. (suicid* or self-harm* or self-injur* or parasuicid* or “ending own life” or “taking own life” or “thoughts of death”) ti, ab
S15. S11 OR S12 OR S13 OR S14
S16. S7 AND S10 AND S15

PsychINFO

S1. exp PREGNANCY
S2. exp POSTNATAL PERIOD
S3. exp MOTHERS
S4. (pregnan* or *natal or *partum or matern* or mother*) ti, ab
S5. S1 OR S2 OR S3 OR S4
S6. exp PATIENT REPORTED OUTCOME MEASURES or exp PSYCHOLOGICAL ASSESSMENT or exp MENTAL HEALTH AND ILLNESS ASSESSMENT or exp HEALTH PSYCHOLOGY ASSESSMENT
S7. (measure* or assess* or diagnos* or screen* or questionnaire or scale or instrument or method or tool) ti, ab
S8. S6 OR S7
S9. exp SUICIDE+ or exp ATTEMPTED SUICIDE or exp SUICIDALITY or exp SUICIDAL IDEATION or exp SUICIDOLOGY
S10. (suicid* or self-harm* or self-injur* or parasuicid* or “ending own life” or “taking own life” or “thoughts of death”) ti, ab
S11. S9 OR S10
S12. S5 AND S8 AND S11

PsychARTICLES

S1. exp PREGNANCY

S2. exp POSTNATAL PERIOD
S3. exp MOTHERS
S4. (pregnan* or *natal or *partum or matern* or mother*) ti, ab
S5. S1 OR S2 OR S3 OR S4
S6. exp PATIENT REPORTED OUTCOME MEASURES or exp PSYCHOLOGICAL ASSESSMENT or exp MENTAL HEALTH AND ILLNESS ASSESSMENT or exp HEALTH PSYCHOLOGY ASSESSMENT
S7. (measure* or assess* or diagnos* or screen* or questionnaire or scale or instrument or method or tool) ti, ab
S8. S6 OR S7
S9. exp SUICIDE+ or exp ATTEMPTED SUICIDE or exp SUICIDALITY or exp SUICIDAL IDEATION or exp SUICIDOLOGY
S10. (suicid* or self-harm* or self-injur* or parasuicid* or “ending own life” or “taking own life” or “thoughts of death”) ti, ab
S11. S9 OR S10
S12. S5 AND S8 AND S11

PubMed

(((pregnan*[Title/Abstract] OR *natal[Title/Abstract] OR *partum[Title/Abstract] OR matern*[Title/Abstract] OR mother*[Title/Abstract])) AND (measure*[Title/Abstract] OR assess*[Title/Abstract] OR diagnos*[Title/Abstract] OR screen*[Title/Abstract] OR questionnaire[Title/Abstract] OR scale[Title/Abstract] OR instrument[Title/Abstract] OR method[Title/Abstract] OR tool[Title/Abstract])) AND (suicid*[Title/Abstract] OR self-harm*[Title/Abstract] OR self-injur*[Title/Abstract] OR parasuicid*[Title/Abstract] OR "ending own life"[Title/Abstract] OR "taking own life"[Title/Abstract] OR "thoughts of death"[Title/Abstract])

Cochrane Library

#1 [Pregnancy] explode all trees
#2 [Postpartum Period] explode all trees
#3 [Mothers] explode all trees
#4 (pregnan* or *natal or *partum or matern* or mother*):ti,ab,kw
#5 #1 OR #2 OR #3 OR #4 87505
#6 [Outcome Assessment, Health Care] explode all trees
#7 (measure* or assess* or diagnos* or screen* or questionnaire or scale or instrument or method or tool):ti,ab,kw
#8 #6 OR #7
#9 [Suicide] explode all trees
#10 [Suicide, Attempted] explode all trees
#11 [Suicidal Ideation] explode all trees
#12 [Maternal Death] explode all trees
#13 [Perinatal Death] explode all trees
#14 (suicid* or self-harm* or self-injur* or parasuicid* or “ending own life” or “taking own life” or “thoughts of death”):ti,ab,kw
#15 #9 OR #10 OR #11 OR #12 OR #13 OR #14
#16 #5 AND #8 AND #15

Maternity and Infant Care

1. Pregnancy.de.

2. (Postpartum Period or Postpartum).de.
3. (Postnatal or Maternity or Mothers).de.
4. Maternal.de.
5. (pregnan* or antenatal or perinatal or postnatal or antepartum or peripartum or postpartum or matern* or mother*).ti. or (pregnan* or antenatal or perinatal or postnatal or antepartum or peripartum or postpartum or matern* or mother*).ab.
6. Outcome assessment.de.
7. Assessment tools.de.
8. (measure* or assess* or diagnos* or screen* or questionnaire or scale or instrument or method or tool).ti. or (measure* or assess* or diagnos* or screen* or questionnaire or scale or instrument or method or tool).ab.
9. 1 OR 2 OR 3 OR 4 OR 5
10. 6 OR 7 OR 8
11. Suicide.de.
12. Maternal death.de.
13. Perinatal death.de.
14. (suicid* or self-harm* or self-injur* or parasuicid*).ti. or (suicid* or self-harm* or self-injur* or parasuicid*).ab.
15. ("taking own life" or "ending own life" or "thoughts of death").ti.
16. ("taking own life" or "ending own life" or "thoughts of death").ab.
17. 11 OR 12 OR 13 OR 14 OR 15 OR 16
18. 9 AND 10 AND 17

EMBASE
1. exp PREGNANCY/+
2. exp PERINATAL PERIOD/+
3. exp MOTHER/+
4. (pregnan* or antenatal or perinatal or postnatal or antepartum or peripartum or postpartum or matern* or mother*).ti. or (pregnan* or antenatal or perinatal or postnatal or antepartum or peripartum or postpartum or matern* or mother*).ab.
5. 1 OR 2 OR 3 OR 4
6. exp OUTCOME ASSESSMENT/+
7. exp PSYCHOLOGIC ASSESSMENT/+
8. (measure* or assess* or diagnos* or screen* or questionnaire or scale or instrument or method or tool).ti. or (measure* or assess* or diagnos* or screen* or questionnaire or scale or instrument or method or tool).ab.
9. 6 OR 7 OR 8
10. exp SUICIDE/+ or exp SUICIDE ATTEMPT/+
11. exp SUICIDAL IDEATION/+ or exp SUICIDAL BEHAVIOUR/+
12. exp MATERNAL DEATH/+
13. exp PERINATAL DEATH/+
14. (suicid* or self-harm* or self-injur* or parasuicid*).ti. or (suicid* or self-harm* or self-injur* or parasuicid*).ab.
15. ("taking own life" or "ending own life" or "thoughts of death").ti. or ("taking own life" or "ending own life" or "thoughts of death").ab.
16. 10 OR 11 OR 12 OR 13 OR 14 OR 15
17. 5 AND 9 AND 16

CINAHL
S1. exp PREGNANCY+

S2. exp POSTNATAL PERIOD+
S3. exp MOTHERS+
S4. (pregnan* or *natal or *partum or matern* or mother*) ti, ab
S5. S1 OR S2 OR S3 OR S4
S6. exp OUTCOME ASSESSMENT
S7. (measure* or assess* or diagnos* or screen* or questionnaire or scale or instrument or method or tool) ti, ab
S8. S6 OR S7
S9. exp SUICIDE+ or exp SUICIDE, ATTEMPTED or exp SUICIDAL IDEATION
S10. exp PERINATAL DEATH or exp MATERNAL MORTALITY
S11. (suicid* or self-harm* or self-injur* or parasuicid* or “ending own life” or “taking own life” or “thoughts of death”) ti, ab
S12. S9 OR S10 OR S11
S13. S5 AND S8 AND S12

Appendix E – Study 1 – Systematic review: Overview of study characteristics for review question one

No.	Article citation	Country	*n*	Antenatal, postnatal, or perinatal	Sample(s)	Suicidality measure, item, or subscale**	Suicidality construct(s) measured
1	Abdelghani et al. (2020)	Egypt	835	Antenatal	H	BSSI	SI, SR, SA
2	Abrahams et al. (2018)	South Africa	376[g]	Antenatal	PC	MINI, suicide module - English, Afrikaans & isiXhosa versions	SI, SIBs, S, SP, SA, SR
3	Achtyes et al. (2020)	USA	165	Postnatal 8 weeks	C	C-SSRS	SI, S, SIBs, SP, SA, SR
4	Agampodi et al. (2013)	Sri Lanka	376	Antenatal 24-36 weeks	C	EPDS, item-10 - Sinhalese version	SH
5	Ahmad et al. (2015)	Pakistan	88	Postnatal 1 month	H	EPDS, item-10	SI
6	Ahorsu et al. (2020)	Iran	290	Antenatal	PB	PHQ-9, item-9	SI
7	Al Khames et al. (2020)	Jordan	684	Perinatal Antenatal > 8 weeks Postnatal 0-6 months	H, C	EPDS, item-10	SI, SH
8	Alhammadi et al. (2017)	UAE	504	Postnatal 1 week - 6 months	PC	EPDS, item-10 - English & Arabic versions	SI
9	Alhusen et al. (2015)	USA	166	Antenatal 24-28 weeks	H	EPDS, item-10	SI
10	Anbesaw et al. (2021)	Ethiopia	415	Antenatal > 30 days gestation	H	CIDI, suicide module	SI, SP, SA, SR
11	Arach et al. (2020)	Uganda	1,789	Postnatal 50th day	C, SR	EPDS, item-10	SI
12	Arachchi et al. (2019)	Sri Lanka	475	Antenatal > 36 weeks	H	EPDS, item-10 - Sinhala & Tamil versions	SI
13	Asplin et al. (2015)	Sweden	56	Perinatal Antenatal 30 weeks	H, C	EPDS, item-10	SH

				Postnatal i. 2 months ii. 1 year			
14	Azale et al. (2018)	Ethiopia	3,147	Postnatal 0-12 months	PB	PHQ-9, item-9	SI
15	Bao et al. (2021)	China	100	Antenatal 3rd trimester	H, CL	EPDS, item-10	SI
16	Basutkar et al. (2021)	India	60	Perinatal Antenatal 34-36 weeks Postnatal 7 days	H	EPDS, item-10 - Tamil version	SI
17	Beck & Gable (2000)*	USA	525[t]	Postnatal 2 weeks - 6 months	H, CL	PDSS, SUI	SI
18	Beck & Gable (2001a)*	USA	150[a]	Postnatal 2-12 weeks	C	PDSS, SUI	SI
19	Beck & Gable (2001b)*	USA	150[a]	Postnatal 2-12 weeks	C	PDSS, SUI	SI
20	Beck & Gable (2003)*	USA	377	Postnatal 2-12 weeks	PC	PDSS, SUI - Spanish version	SI
21	Beck & Gable (2005)*	USA	150	Postnatal 2-12 weeks	PC	PDSS, SUI - Spanish version	SI
22	Beck & Indman (2005)	USA	133[t]	Postnatal	CL, SA	PDSS, SUI	SI
23	Belete & Misgan (2019)	Ethiopia	988	Postnatal 6 weeks	PC, H	MINI, suicide module - Amharic version	SIB's, SI, SP, SA, SR
24	Belete et al. (2021)	Ethiopia	738	Antenatal	H	CIDI, suicide module - Amharic version	SI, SA
25	Benningfield et al. (2010)	USA	174	Antenatal 6-30 weeks	CL, SR	MINI, suicide module	SI, S
26	Biggs et al. (2018)	USA	956	1 week after seeking a termination Then every 6 months (until 5 years)	H, SR	PHQ-9, item-9	PHQ-9 = SI

27	Blucker et al. (2014)*	USA	385 110[w]	Postnatal 2 weeks	H	PDSS, SUI	SI/SH
28	Bodnar-Deren et al. (2016)	USA	1,073	Postnatal i. 3 weeks ii. 3 months iii. 6 months	H, SR	EPDS, item-10; PHQ, item-9	SI
29	Boghossian et al. (2020)	Australia	178	Antenatal	H, PB	EPDS, item-10	SH
30	Boran et al. (2020)	Turkey	1,614	Postnatal 1 month	H, SR	EPDS, item-10	SI
31	Bowen et al. (2009)	Canada	402	Antenatal 1st booking appointment	C	EPDS, item-10	SH
32	Boyd & Worley (2007)*	USA	76	Postnatal 2 weeks - 3 months	C	PDSS, SUI	SI
33	Cantilino et al. (2007)*	Brazil	120	Postnatal 2-26 weeks	H	PDSS, SUI - Portuguese version	SI
34	Cardillo et al. (2016)	Brazil	72	Postnatal 0-4 months	CL	EPDS, item-10; HAM-D, item-3	EPDS = SAG HAM-D = SI
35	Castro e Couto et al. (2016)	Brazil	255	Postnatal 2nd trimester	H	MINI, suicide module; EPDS, item-10; BDI, item-9 - Brazilian version	MINI = S, SA, SI, SIBs, SP, SR EPDS = SI BDI = SI
36	Chalise & Bhandari (2019)	Nepal	195	Postnatal < 6 months	C	EPDS, item-10 - Nepalese version	SI
37	Chalise et al. (2020)	Nepal	242	Postnatal < 6 months	H	EPDS, item-10 - Nepalese version	SI
38	Chan et al. (2016)	Malaysia	114	Antenatal	CL	MINI Kid, suicide module; BDI, item-9 - Malay versions	MINI Kid = S BDI = SI
39	Coelho et al. (2014)	Brazil	828[n]	Antenatal	PC, PB	MINI, suicide module - Portuguese version	SI, SIBs, S, SA, SR, SH, SP
40	Coker et al. (2017)*	USA	842[s]	Postnatal < 13 weeks	CL	EPDS, item-10; BDI, item-9; HRSD, item-3	EPDS = SH BDI = SI, SH HRSD = SI, SH
41	Corbani et al. (2017)*	Italy	830	Antenatal	H	EPDS, item-10; BDI-SF, item-7 - Italian versions	S

42	Crowley et al. (2020)	England	545[o]	Antenatal (within 3 weeks of 1st booking appointment)	PC, SR, PB	EPDS, item-10	SI, SH
43	Damé et al. (2017)	Brazil	820	Antenatal	PC, SR	EPDS, item-10	SH
44	de Avila Quevedo et al. (2021)	Brazil	706	Perinatal Antenatal Postnatal 30-60 days	PC, H	MINI, suicide module	SR, SI, SH, SP, SA, S
45	de la Rosa et al. (2021)	New Mexico	1,453	Perinatal Pregnant to 8 weeks postnatal	SA, C	EPDS, item-10 - English or Spanish versions	SH
46	Dewing et al. (2013)	South Africa	249	Postnatal 3 months	C	MINI, suicide module	SI, SP, SA, SR, S
47	Dlamini et al. (2019)	South Africa	114	Postnatal 7 days – 6 weeks	PC	EPDS, item-10 - SiSwati version	SI
48	Doherty et al. (2019)	Ireland	45	Perinatal	SA, CL	BSSI	SI
49	Doi & Fujiwara (2019)	Japan	5,960	Postnatal 4-5 months	C, PC	EPDS, item-10 - Japanese version	SH
50	Duan et al. (2019)	China	1,027	Postnatal (recently given birth)	C	PHQ-9, item-9	SI
51	Enătescu et al. (2020)	Romania	202	Perinatal Antenatal 3rd trimester Postnatal 6-8 weeks	H	EPDS, item-10	SI
52	Faisal-Cury et al. (2021)	Brazil	358	Postnatal 6-9 months	SA, CL	PHQ-9, item-9	SI
53	Farias et al. (2013)	Brazil	239[m]	Antenatal 1st trimester	PC	MINI, suicide module	SI, SH, SP, SA, SR
54	Fellmeth et al. (2021)	Thailand-Myanmar	568	Perinatal i. 1st trimester ii. 2nd trimester iii. 3rd trimester iv. 1 month postnatal	H	SCID, suicide question - Karen & Burmese versions	SI

55	Field et al. (2018)	South Africa	376[g]	Antenatal 1st booking appointment	PC	MINI, suicide module	SI, SIBs
56	Fisher et al. (2004)	Vietnam	506	Postnatal 6-8 weeks	H	EPDS, item-10 - Vietnamese version	SI
57	Fisher et al. (2013)	Vietnam	417	Perinatal Antenatal i. 1st trimester ii. > 28 weeks Postnatal i. 8 weeks ii. 6 months	PB, SA	EPDS, item-10 - Vietnamese version	SI
58	Freitas & Botega (2002)	Brazil	120[b]	Antenatal	H	BSSI, Portuguese version	SI
59	Freitas et al. (2008)	Brazil	110[b]	Antenatal	H	BSSI, Portuguese version	SI
60	Friedman et al. (2016)	Peru	3,323[d]	Antenatal > 16 weeks	SR, PC	PHQ-9, item-9 - Spanish version	SI
61	Galletta et al. (2022)	Brazil	184	Postnatal	SR, H	EPDS, item-10, Portuguese version	SI
62	Garman et al. (2019a)	South Africa	384[c]	Perinatal Antenatal i. 1st booking appointment ii. < 29 weeks iii. 8 months Postnatal i. 3 months ii. 12 months	SA, CL, C	MINI, suicide module - IsiXhosa version	SR, SI, SIBs, SH, SP, SA
63	Garman et al. (2019b)	South Africa	384[c]	Perinatal Antenatal i. 1st booking appointment ii. < 29 weeks iii. 8 months Postnatal i. 3 months ii. 12 months	SA, CL, C	MINI, suicide module - IsiXhosa version	SR, SI, SIBs, SH, SP, SA
64	Gausia et al. (2009)	Bangladesh	361	Antenatal 34-35 weeks	PC, C, SA	EPDS, item-10 - Bangladeshi version	SI, SH
65	Gavin et al. (2010)	USA	2,159[u]	Antenatal	SA, SR, H	PHQ, item-9 - English & Spanish versions	SI

66	Gelabert et al. (2020)	Spain	1795	Postnatal i. 2-3 days ii. 8 weeks iii. 32 weeks	H	EPDS, item-10 - Spanish version	SI
67	Gelaw et al. (2020)	Ethiopia	414[p]	Perinatal	H	CIDI, suicide module - Amharic version	SI, SA
68	Gelaye et al. (2015)	Peru	641[d]	Antenatal	SR, PC	PHQ-9, item-9	SI
69	Gelaye et al. (2017a)	Peru	3,342[d]	Antenatal	SR, PC	PHQ-9, item-9	SI
70	Gelaye et al. (2017b)	Peru	1,298[q]	Antenatal 24-28 weeks	SR, PC	PHQ-9, item-9 - Spanish version	SI
71	Gelaye et al. (2019)	Peru	1,108	Antenatal 24-28 weeks	PC	PHQ-9, item-9 - Spanish version	SI
72	Georgiopoulos et al. (2001)	USA	342	Postnatal 6 weeks	H, CL	EPDS, item-10	SI, SH
73	Giallo et al. (2018)	Australia	1,507	Perinatal Antenatal i. 10-24 weeks Postnatal i. 3 months ii. 6 months iii. 12 mths iv. 18 months v. 4 years	PB, H, SR	EPDS, item-10	SH
74	Gordon et al. (2019)	England	545[o]	Perinatal Antenatal i. 1st trimester ii. 28 weeks Postnatal i. 3 months	PC, SR	EPDS, item-10; SCID	EPDS = SH SCID = SH, SA
75	Govender et al. (2020)	South Africa	326	Perinatal	H, SR	EPDS, item-10	SH
76	Goweda & Metwally (2020)	Egypt	237	Postnatal 4-12 weeks	H	EPDS, item-10, Arabic version	SI
77	Gross et al. (2020)	USA	620	Perinatal Antenatal 20-30 weeks	H, SR, SA	EPDS, item-10	SI

				Postnatal 8-24 weeks			
78	Grywacheski et al. (2020)	Canada	7,111	Postnatal	P	EPDS, item-10	SH
79	Guerra et al. (2017)	Columbia	695	Perinatal	H	EPDS, item-10 – Spanish version	SI, SH
80	Hiiragi et al. (2021)	Japan	339 279	Postnatal 28-35 days	H	EPDS, item-10	SH
81	Howard et al. (2011)*	England	4,150	Postnatal i. 6 weeks ii. 8-26 weeks (home-visit) iii. 4 weeks (after home-visit) iv. 18 weeks (after home-visit)	PC, CL, SR	EPDS, item-10	SI
82	Ho-Yen et al. (2006)	Nepal	426	Postnatal 5-10 weeks	PB, CL	EPDS, item-10; SRQ-20, item-17 - Nepali versions	SI
83	Huang et al. (2012)	Brazil	831	Antenatal 20-30 weeks	PC, SA	SRQ-20, item-17	SI
84	Iliadis et al. (2018)*	Sweden	305	Postnatal i. 5 days ii. 6 weeks iii. 6 months	PB, SR, CL	EPDS, item-10	SH
85	Ishida et al. (2010)	Paraguay	951	Perinatal	PB	SRQ-20, item-17 - Latin American version	SI
86	Islam et al. (2019)	Bangladesh	426	Postnatal 0-6 months	H	EPDS, item-10 - Bangla version	SI
87	Iyenger et al. (2020)	India	120	Antenatal	H	HAM-D	SI
88	Jarvis et al. (2020)	USA	209	Postnatal < 6 months	H	EPDS, item-10 - English & Spanish versions	SI
89	Jasthi et al. (2021)	USA	96	Antenatal	CL	EPDS, item-10	SI
90	Jia-Hui et al. (2019)	China	654	Perinatal Antenatal i. 36-40 weeks Postnatal i. 1-2 days	H	EPDS, item-10	SI

				ii. 4-6 days iii. 6-8 weeks			
91	Jones et al. (2019)	South Africa	599[r]	Perinatal Antenatal i. < 24 weeks ii. 32 weeks Postnatal i. 12 months	SR, H	EPDS, item-10 - English, Zulu & Sotho versions	SI
92	Kalmbach et al. (2020)	USA	267[e]	Antenatal Late 2nd or 3rd trimester	H, SR	EPDS, item-10	SI
93	Kalmbach et al. (2021)	USA	39[e]	Perinatal (once a week - 30 weeks gestation to 1.5-2 months postnatal)	CL, SA	EPDS, item-10	SI
94	Karacam & Kitis (2008)*	Turkey	445	Postnatal 2-13 weeks	PC	PDSS, SUI - Turkish version	SI
95	Kettunen et al. (2014)	Finland	208	Postnatal 6 weeks	H, CL	SCID-I	SI
96	Kim et al. (2015)	USA	22,118	Perinatal Antenatal 24-28 weeks Postnatal 6 weeks	H, SA	EPDS, item-10 - multiple languages	SI
97	Knettel et al. (2020)*	Tanzania	200	Perinatal Antenatal 2nd or 3rd trimester Postnatal 6 months	H	EPDS, item-10; PHQ-9, item-9	SI
98	Kubota et al. (2020)	Japan	430	Perinatal Antenatal i. early pregnancy ii. late pregnancy Postnatal i. 5 days ii. 1 month	H	EPDS, item-10, Japanese version	SI

99	Lanczik et al. (1992)	Germany	123	Postnatal Days 3 & 5	H	HAM-D, item-3	SI
100	Le et al. (2010)*	USA	155	Postnatal 6-8 weeks	PC, CL, SR	PDSS, SUI - Spanish version	SI
101	Legazpi et al. (2022)	Spain	1,524	Antenatal	H	PHQ-9, item-9	SI
102	Levey et al. (2019)	Peru	2,062[d]	Antenatal > 16 weeks	SR, PC	CIDI, suicide module	SI, SIBs, SA, SP
103	Lillie et al. (2020)	Ghana	374	Antenatal	SR, C	PHQ-9, item-9, Mampruli & Nabt versions	SI, SH
104	Liu et al. (2021)	USA	715	Antenatal ≥ 8 weeks gestation	C	EPDS, item-10	SH
105	Lucero et al. (2012)	USA	96	Postnatal 2 weeks - 12 months	PC	PDSS, SUI - Spanish version	SI
106	Malus et al. (2016)	Poland	100	Postnatal 1 month	CL	PDSS, SUI - Polish version	SI
107	Manber et al. (2008)	USA	102	Antenatal 10-32 weeks	H, C, CL, SR	HRSD, item-3; BDI, item-9	S
108	Mandell et al. (2022)	South Africa	217[r]	Antenatal 6-30 weeks gestation	SR, H	EPDS, item-10, English, isiZulu or seSotho versions	SI
109	Manikkam & Burns (2012)	South Africa	387	Antenatal	PC	EPDS, item-10 - English & IsiZulu versions	SH
110	Maré et al. (2021)	South Africa	748	Perinatal Antenatal 28-32 weeks gestation Postnatal 6 months	SA, H	MINI, suicide module	SIBs, SA, SP, SR
111	Martini et al. (2019)	Germany	306	Perinatal Antenatal i. 10-12 weeks ii. 22-24 weeks iii. 35-37 weeks Postnatal i. 10 days ii. 2 months iii.4 months (iv. 16 months)	H, C, SA	EPDS, item-10; CIDI-V, suicide items	EPDS = SH, SI CIDI-V = SI, SIBs, SA, SP

112	Matthey et al. (2016)	Australia	256	Antenatal i. 1st booking appointment ii. 2-5 weeks after 1st booking	PC, SA	EPDS, item-10	SI, SH
113	Mauri et al. (2012)*	Italy	1,066	Perinatal Antenatal i. 3 months ii. 6 months iii. 8 months Postnatal i. 1 month ii. 3 months iii. 6 months iv. 9 months v. 12 months	H, SR	EPDS, item-10	S, SI
114	McCabe et al. (2012)*	USA	111[w]	Postnatal > 2 weeks	H, SR	PDSS, SUI	SI
115	McCarthy et al. (2018)	USA	9,192	Antenatal 2nd trimester	H, SA	EPDS, item-10	SH
116	McKelvie et al. (2021)	Vanuatu	188	Antenatal	H	SRQ-20, item-17	SI
117	Meltzer-Brody et al. (2014)	USA	91	Perinatal i. 24-hour inpatient admission ii. 24-hour inpatient discharge	CL	EPDS, item-10	SI, SH
118	Melville et al. (2010)	USA	1,888[u]	Antenatal 2nd trimester	H	PHQ-9, item-9	SI
119	Mikšić et al. (2017)	Croatia	110	Antenatal 37-39 weeks	PC	EPDS, item-10 - Croatian version	SI
120	Mitro et al. (2020)	Peru	100[q]	Antenatal 24-28 weeks	SR, PC	PHQ-9, item-9	SI
121	Monaghan et al. (2021)	Ethiopia	118	Postnatal < 3 months	C	SRQ-20, item-17, Amharic version	SI
122	Mutiso et al. (2018)	Kenya	182	2 weeks after miscarriage	H	EPDS, item-10	SH
123	Muzik et al. (2016)	USA	116	Postnatal i. 4 months ii. 6 months iii. 12 months iv. 15 months	SR, C	PDSS, SUI	SI

				(v. 18 months)			
124	Na et al. (2018)*	USA	46	Antenatal	CL, SR	PHQ-9, item-9; eC-SSRS	eC-SSRS = SI, SIBs, SP, SA, SR PHQ-9 = SI
125	Nampijja et al. (2019)	Uganda	300	Postnatal 1-3 months	H	MINI, suicide module - Luganda & English versions	S
126	Nayak & Nachane (2018)	India	100[f]	Postnatal 6 weeks	H	EPDS, item-10	SI, SR
127	Nayak & Nachane (2020)	India	100[f]	Postnatal 6 weeks	H	EPDS, item-10	SI, SR
128	Nelson et al. (2013)	USA	17,648	Postnatal 1st visit post-birth	H, PC	EPDS, item-10	SI, SH
129	Newport et al. (2007)*	USA	383[s]	Antenatal	CL	BDI, item-9; HRSD, item-3	SI
130	O'Boyle et al. (2005)	USA	82	Perinatal	H	EPDS, item-10	SI
131	Onah et al. (2016)	South Africa	376[g]	Antenatal	PC	MINI, suicide module - Afrikaans & IsiXhosa versions	SI, S, SR
132	Onah et al. (2017)	South Africa	376[g]	Antenatal	PC	MINI, suicide module - Afrikaans & IsiXhosa versions	SI, SIBs, S, SP, SA, SR
133	Palagini et al. (2019)	Italy	62	Antenatal	H, SR	EPDS, item-10	SI, S
134	Palfreyman (2021)*	Sri Lanka	1,000	Antenatal	H, C	EPDS, item-10; eC-SSRS - English, Sinhala & Tamil versions	EPDS = SH eC-SSRS = SI, SH, SIBs
135	Parcesepe et al. (2021)	Cameroon	230	Antenatal 3rd trimester	H, SR	SRQ-20, item-17	SI
136	Pariente et al. (2020)	Israel	223 123	Postnatal 2nd day	H	EPDS, item-10	SI
137	Paris et al. (2009)	USA	32	Postnatal	CL, SR	PDSS, SUI	SI
138	Paul et al. (2021)*	England	8,425	Perinatal Antenatal i. 18 weeks ii. 32 weeks Postnatal i. 8 weeks ii. 8 months	P	EPDS, item-10	SH

				(there were also another 7 time points > 1 year postnatal)			
139	Pereira et al. (2010)*	Portugal	453[h]	Postnatal 3 months	H	PDSS, SUI - Portuguese version	SI
140	Pereira et al. (2011)*	Portugal	503[h]	Antenatal 3rd trimester	H	PDSS, SUI -Portuguese versions	SI
141	Pham et al. (2018)	Argentina	539	Postnatal 4 weeks	H	EPDS, item-10	SH
142	Phukuta & Omole (2020)	South Africa	227	Postnatal > 16 weeks	PC	EPDS, item-10	SH, SI
143	Pinheiro et al. (2008)*	Brazil	317 (CL) 386 (PB)	Postnatal 30-120 days (CL) 6-12 weeks (PB)	PB, CL	MINI, suicide module; BDI, item-9	MINI = SR, SA BDI = S
144	Pinheiro et al. (2012a)	Brazil	190	Postnatal 45-90 days	PC	MINI suicide module - Portuguese version	SI, SIB's, SH, SA, SP, SR, S
145	Pinheiro et al. (2012b)	Brazil	823[n]	Antenatal	PC	MINI suicide module - Portuguese version	SI, SIB's, SH, SA, SP, SR, S
146	Pope et al. (2013)	Canada	147	Postnatal i. 2 weeks ii. 1 month iii. 2 months iv. 3 months v. 6 months vi. 12 months	CL	EPDS, item-10; HDRS, item-3	SI, SH
147	Postpartum Depression: PACT Consortium (2015)	Various	6,556	Postnatal < 12 weeks	CL	EPDS, item-10	SI
148	Quelopana et al. (2011)*	Chile	163	Postnatal > 2 weeks	PC	PDSS, SUI - Spanish version	SI
149	Rathod et al. (2018)	India	130 224	Perinatal	SA, PB, C, PC	PHQ-9, item-9; CIDI, suicide module	PHQ-9 = SI CIDI = SI, S
150	Redinger et al. (2021)	South Africa	649	Antenatal i. 1st trimester ii. 2nd trimester	SR, H	EPDS, item-10	SH
151	Rochat et al. (2011)*	South Africa	109[i]	Antenatal	PC	SCID - IsiZulu version	S, SP, SA

				3rd trimester			
152	Rochat et al. (2013)*	South Africa	109[i]	Antenatal 3rd trimester	PC	EPDS, item-10; SCID	S, SP, SA
153	Rodriguez et al. (2017)	South Africa	673[j]	Antenatal	SR, H	EPDS, item-10 - IsiZulu & Sesotho version	SI
154	Rodriguez et al. (2018)	South Africa	681[j]	Perinatal Antenatal 8-24 weeks Postnatal 12 months	SR, H	EPDS, item-10 - English, IsiZulu & Sesotho version	SI
155	Rurangirwa et al. (2018)	Rwanda	921	Postnatal < 13 months	PB	MINI, suicide module - Kinyarwanda version	SI, SR
156	Rychnovsky & Beck. (2006)*	USA	109	Postnatal i. 1-3 days ii. 2 weeks iii. 6 weeks	H	PDSS, SUI	SI
157	Sade et al. (2020)	Israel	84 279	Antenatal	H	EPDS, item-10	SI
158	Sakowicz et al. (2021)	USA	1,362	Perinatal	CL	PHQ-9, item-9	SI
159	Saldaña et al. (2021)	USA	587	Postnatal > 4 weeks	SR, C, P	PDSS, SUI; BDI-II, item-9	SI
160	Sarna et al. (2019)	India	200	Perinatal Antenatal or < 14 weeks postnatal	PC, H	EPDS, item-10	SH
161	Sega et al. (2021)	USA	213	Postnatal	C	EPDS, item-10	SI, SH
162	Shellman et al. (2014)	USA	60	Postnatal 2 weeks - 12 months	C	PDSS, SUI - Spanish version	SI
163	Shi et al. (2018)	China	213	Perinatal Antenatal 39 weeks Postnatal 3-7 days	H	EPDS, item-10	SI
164	Silva et al. (2012)	Brazil	1,334	Antenatal	PC	EPDS, item-10	SI, S

165	Sit et al. (2011)	USA	9,339	Postnatal 4-6 weeks	H	EPDS, item-10	SI, SR
166	Sit et al. (2015)	USA	628[v]	Postnatal 4-6 weeks	H, CL, SR	EPDS, item-10	SI, SH
167	Small et al. (2007)	Australia	1,310 313	Postnatal	PB, SR	EPDS, item-10	SH
168	Smith et al. (2004)	USA	387	Antenatal	H	PHQ, item-9 - English & Spanish versions	SI, SH
169	Smith et al. (2006)	USA	948	Antenatal	H	PHQ, item-9 - English & Spanish versions	SI, S
170	Soares et al. (2021)	Brazil	645[n]	Antenatal 20-22 weeks	PC	MINI, suicide module, Portuguese version	SR
171	Sockol et al. (2014)	USA	180	Postnatal	CL	EPDS, item-10	SI, S
172	Supraja et al. (2016)	India	462	Antenatal 5-20 weeks	H, SR	EPDS, item-10	S, SI
173	Szpunar et al. (2020)	USA	28[k]	Perinatal Antenatal 3rd trimester Postnatal 6 weeks	H	C-SSRS	SI, SIBs, SA, SP
174	Szpunar et al. (2021)	USA	18[k]	Perinatal Antenatal 3rd trimester Postnatal 6 weeks	H	C-SSRS	SI, SIBs
175	Tabb et al. (2019)	USA	736	Antenatal	H, CL	EPDS, item-10 - Spanish & English versions	SI
176	Tachibana et al. (2020)	Japan	464	Postnatal i. 3-4 months ii. 7-8 months	C	EPDS, item-10, Japanese version	SI, SH
177	Takegata et al. (2019)	Japan	243	Perinatal Antenatal i. 3rd trimester Postnatal i. 5 days ii. 1 month	SA, H	EPDS, item-10 - Japanese version	SI, SH

178	Takubo et al. (2021)	Japan	3,939	Postnatal 1 month	H	EPDS, item-10	SI
179	Tavares et al. (2012)	Brazil	919	Postnatal 30-90 days	PC	MINI, suicide module	SR, SI, SIBs, SA, SP, S, SH
180	Teofilo et al. (2014)	Brazil	238[m]	Antenatal i. 5-13 weeks ii. 20-26 weeks iii. 30-36 weeks	PC	MINI, suicide module	SI
181	Tomlinson et al. (2020)	Afghanistan	215	Postnatal	H	PHQ-9, item-9	SI
182	Tourtelot et al. (2021)	USA	20	Antenatal	H, CL	EPDS, item-10	SI
183	Trettim et al. (2020)	Brazil	974	Antenatal < 24 weeks	SR, P	MINI, suicide module	SI, SIBs, SA
184	Vallee et al. (2020)	Various	187	Postnatal > 5 weeks	CL, SR	EPDS, item-10	SH
185	van Broekhoven et al. (2019)	Netherlands	1,427	Perinatal Antenatal i. 32 weeks Postnatal i. 6 weeks ii. 4 months iii. 8 months iv. 12 months	PC, SR	EPDS, item-10	SI
186	van Heyningen et al. (2016)	South Africa	376[g]	Antenatal 1st booking appointment	PC	MINI, suicide module	SR, SI
187	van Heyningen et al. (2018)	South Africa	376[g]	Antenatal 1st booking appointment	PC	MINI, suicide module	SI, SIBs
188	van Heyningen et al. (2019)	South Africa	376[g]	Antenatal 1st booking appointment	PC	EPDS, item-10; PHQ-9, item-9; MINI, suicide module - English, Afrikaans & isiXhosa versions	EPDS = SI PHQ-9 = SI MINI = SIBs
189	Vaz et al. (2014)	Brazil	234[m]	Antenatal 6-13 weeks	H, SR	MINI, suicide module	SR, SI, SIBs, SA, SP, S, SH
190	Velloza et al. (2020)	Kenya	29	Perinatal	H, SR	PHQ-9, item-9 - Kiswahili & English versions	SI, SH

191	Weng et al. (2016)	Taiwan	3,867	Perinatal Antenatal 1st trimester Postnatal 1 month	H	EPDS, item-10 - Chinese version	SI
192	Wesselhoeft et al. (2020)	Denmark, Vietnam & Tanzania	1,169 1,278 2,069	Postnatal 40 days (Vietnamese, *n* = 1278 & Tanzanian, *n* = 1169) 3 months (Danish, *n* = 2069)	PB	EPDS, item-10 - Danish, Vietnamese & Tanzanian versions	SH
193	Wisner et al. (2013)	USA	10,000[v]	Postnatal 4-6 weeks	H, SR	EPDS, item-10	SH
194	Wong et al. (2017)	South Africa	625	Antenatal 1st booking appointment	PC, SA	EPDS, item-10 - IsiXhosa version	SH
195	Wu et al. (2020)	China	4,124	Antenatal 3rd trimester	H	EPDS, item-10	SH
196	Yaksi & Save (2021)	Turkey	303	Postnatal < 6 months	C	EPDS, item-10	SI
197	Yang et al. (2021)	China	19,515	Antenatal	H	PHQ-9, item-9	SI
198	Yator et al. (2016)	Kenya	123	Postnatal 8 weeks	H	EPDS, item-10	SI
199	Yawn et al. (2008)*	USA	481	Postnatal 5-12 weeks	PC, SR	EPDS, item-10; PHQ-9, item-9	SI
200	Yu et al. (2019)	China	600	Perinatal Antenatal (pre-op apt for caesarean) Postnatal i. 7 days ii. 42 days	H	EPDS, item-10 - Chinese version	SH
201	Zewdu et al. (2021)	Ethiopia	414[p]	Perinatal	H	CIDI, suicide module	SI, SA
202	Zhang et al. (2020)	China	1,825	Antenatal > 28 weeks	H	PHQ-9, item-9	SI
203	Zhong et al. (2014)*	Peru	1,520[l]	Antenatal < 16 weeks	PC, SR	PHQ-9, item-9 - Spanish version	SI

204	Zhong et al. (2015)*	Peru	1,517[l]	Antenatal < 16 weeks	PC, SR	EPDS, item-10; PHQ-9, item-9	SI
205	Zhong et al. (2016)	Peru	2,964[l]	Antenatal < 16 weeks	PC, SR	PHQ-9, item-9	SI

Notes: (1) the same alphabet letter in superscript ([a, b, c]) represents the same sample or the sample was drawn from the same cohort; (2) the *suicidality construct(s) measured* refers to the constructs of interest that were examined by a study, which may not necessarily be the same construct of interest that the measure was originally developed to assess or identify; (3) * measure has also been validated in perinatal populations; (4) ** only suicidality measures that were reported by ≥ 3 studies have been included.
Sample: C = Community; CL = Clinical (e.g., diagnosis of a mood disorder and/or experiencing self-reported mental health concerns); H = Hospital or medical clinic; PB = Population based; PC = Primary care; SA = Secondary analysis of existing data. SR = Sub-sample of wider research or ongoing cohort.
Measures: BDI/BDI-II/BDI-SF = Beck Depression Inventory or Beck Depression Inventory-II or Beck Depression Inventory Short-Form (Beck et al.,1961, Beck & Steer, 1993, Beck et al., 1996); BSSI = Beck Scale for Suicide Ideation (Beck et al., 1988); CIDI/CIDI-V = The World Mental Health (WMH) Survey Initiative Version of the World Health Organization (WHO) Composite International Diagnostic Interview (Kessler & Ustün, 2004); C-SSRS/eC-SSRS = Columbia-Suicide Severity Rating Scale or the electronic Columbia-Suicide Severity Rating Scale (Posner et al., 2011); EPDS = Edinburgh Postnatal Depression Scale (Cox et al., 1987); HRSD/HDRS/HAM-D = The Hamilton Depression Rating Scale (Hamilton, 1960); MINI/MINI Kid = MINI-International Neuropsychiatric Interview (Sheehan et al., 1998) or MINI-International Neuropsychiatric Interview for Children and Adolescents (Sheehan et al., 2010); PDSS = Postpartum Depression Screening Scale (Beck & Gable, 2000); PHQ-9 = Patient Health Questionnaire-9 (Kroenke et al., 2001); SCID = Structured Clinical Interview for DSM-IV disorders (American Psychiatric Association, 1994; First & Gibbon, 2004); SRQ-20 = Self-Reporting Questionnaire-20 (Harding et al., 1980).
Suicidality constructs: S = Suicidality (experiencing one or more suicide construct, including, suicidal ideation, suicidal behaviours, suicide attempts); SA = Suicide attempt(s) (previous attempts to take own life); SAG = Self-aggression; SH = Self-harm ideation (persistent thoughts and/or rumination of self-harm); SI = Suicidal ideation (persistent thoughts and/or rumination of suicide); SIBs = Suicidal ideation and behaviours (persistent thoughts and/or rumination of suicide, including risky and/or harmful behaviours); SP = Suicide plans (making plans and/or preparations to take own life); SR = Suicide risk (may be at risk of taking own life, and may also be experiencing suicidal ideation and/or behaviours).

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Appendix F – Study 2 – Qualitative perinatal women: Interview schedule and topic guide

INTERVIEW SCHEDULE & TOPIC GUIDE

STUDY TITLE: An interview study with pregnant and postnatal women to explore the acceptability of being asked different questions about suicide

REC Reference Number: ETH2122-0757 Lead Researcher: Elizabeth Dudeney

Introduction (5 mins)

General introduction and thanks for taking part.

Researcher will ask the participant to verbally consent to taking part in the interview by asking them to repeat the following sentence: "I have read the participant information sheet. I have completed the full consent form online, and I consent to the researcher interviewing me"

To provide context, some background to the study will be outlined in a conversation with the participant. This will include:

- Summarising that some women experience suicidal thoughts and behaviours during pregnancy and after birth, and this happens more frequently in perinatal women than women in the general population.
- Importance of trying to identify these women so that they care receive appropriate and timely support and treatment.
- There are several different questions that perinatal women might be asked to identify potential suicidality. However, there has been limited research to show which questions pregnant and postnatal women feel most comfortable answering or which are most acceptable to them.
- This study is looking at the acceptability and relevance of the suicidality items from seven assessment measures, most of which are used more widely to screen for depression.

Cognitive interview, suicidality questions (20-25 mins)

The participant will be asked to sequentially read out aloud a list of suicidality questions (and the corresponding response choices) and to verbally express their thoughts on each of these (e.g., think aloud) when answering the question. The researcher will also use some verbal prompts when the participant has finished talking about each question to examine their cognitive process (e.g., "what does 'harming yourself' mean to you?", "how did you decide upon how often you felt this way?") and if there is an extended silence (e.g., "what are you thinking?").

The participant will be reminded that they are free to take a break or stop the interview at any time, should they wish to.

The participant will then read out the following questions and response options:

Edinburgh Postnatal Depression Scale, Item-10

Over the PAST SEVEN-DAYS:

1. The thought of harming myself has occurred to me

[ ] Never
[ ] Hardly ever
[ ] Sometimes
[ ] Yes, quite often

The Postpartum Depression Screening Scale, Suicidal Thoughts Subscale

Over the PAST TWO-WEEKS:

1. I started thinking that I would be better off dead

[ ] Strongly disagree
[ ] Disagree
[ ] Neither disagree or agree
[ ] Agree
[ ] Strongly agree

2. I've thought that death seemed like the only way out of this living nightmare

[ ] Strongly disagree
[ ] Disagree
[ ] Neither disagree or agree
[ ] Agree
[ ] Strongly agree

3. I wanted to hurt myself

[ ] Strongly disagree
[ ] Disagree
[ ] Neither disagree or agree
[ ] Agree
[ ] Strongly agree

4. I felt that my baby would be better off without me

[ ] Strongly disagree
[ ] Disagree
[ ] Neither disagree or agree
[ ] Agree
[ ] Strongly agree

5. I just wanted to leave this world

[ ] Strongly disagree
[ ] Disagree
[ ] Neither disagree or agree
[ ] Agree
[ ] Strongly agree

Patient Health Questionnaire-9, Item-9

Over the PAST SEVEN-DAYS:

1. Have you had thoughts that you would be better off dead, or of hurting yourself in some way?

[ ] Not at all
[ ] Several days
[ ] More than half the days
[ ] Nearly every day

Inventory of Depression and Anxiety, Suicidality Subscale

Over the PAST TWO-WEEKS:

1. I had thoughts of suicide

[ ] Not at all
[ ] A little bit
[ ] Moderately
[ ] Quite a bit
[ ] Extremely

2. I hurt myself purposely

[ ] Not at all
[ ] A little bit
[ ] Moderately
[ ] Quite a bit
[ ] Extremely

3. I thought about my own death

[ ] Not at all
[ ] A little bit
[ ] Moderately
[ ] Quite a bit
[ ] Extremely

4. I thought about hurting myself

[ ] Not at all

[ ] A little bit
[ ] Moderately
[ ] Quite a bit
[ ] Extremely

5. I cut or burned myself on purpose

[ ] Not at all
[ ] A little bit
[ ] Moderately
[ ] Quite a bit
[ ] Extremely

6. I thought that the world would be better off without me

[ ] Not at all
[ ] A little bit
[ ] Moderately
[ ] Quite a bit
[ ] Extremely

Ultra-short Maternal Mental Health Screen – Suicidal Thoughts Item

During the PAST MONTH:

1. Has the thought of committing suicide often occurred to you?

[ ] Yes
[ ] No

Self-Reporting Questionnaire-20, Item-17

During the PAST MONTH:

1. Has the thought of ending your life been on your mind?

[ ] Yes
[ ] No

The Beck Depression Inventory, Item-9

Over the PAST SEVEN-DAYS:

(Choose one of the following options)

[ ] I don't have any thoughts of killing myself
[ ] I have thoughts of killing myself, but I would not carry them out
[ ] I would like to kill myself
[ ] I would kill myself if I had the chance

Semi-structured interview (20-25 mins)

Following from the cognitive interview, there will be a more open discussion which will be framed in line with Sekhon et al. (2017) model of 'acceptability' and relevant literature. Questions will include:

- Any confusion, difficulty or ambiguity that the participant might have felt when answering the questions, and if so, which ones in particular.
- The relevance of the items to the participant (e.g., which are more relevant for pregnant and/or postnatal women, and which are not? Why?).
- Anything that women felt was overlooked by these questions (e.g., aspects that may be important to ask about when discussing suicide with perinatal women).
- Anything that might be deemed too sensitive to ask or that might inhibit the participant from answering the questions honestly.
- Any thoughts or ideas of how the questions could be modified and/or improved.
- When might be best time to ask suicide related questions (e.g., during pregnancy, after birth, or both?). At all contacts with healthcare practitioners, or some?
- How should questions about suicide be introduced?
- What might be the preferred method for answering suicide related questions (e.g., filing out a form, being asked verbally by a healthcare practitioner etc.).
- Should there be a stepped care approach (e.g., being asked less intrusive mental health questions first and if responses indicate distress, then questions about suicide are asked), or ask the suicide questions at the same time as other mental health questions?
- Any personal experiences of suicidality or mental health screening, and if so, what was this like for them. What was helpful, what wasn't helpful etc.
- Does the participant think that asking about suicide during pregnancy and/or after birth will be effective at identifying women who may need additional support?

Conclusions and debriefing (5-10 mins)

The researcher will then ask the participant if there is anything else that they think is important to discuss that hasn't been covered. The researcher will also ask how the participant is feeling, after the interview has finished.

Following this, the researcher will read the debriefing sheet out aloud to the participant and ask if they have any further questions or concerns. The debriefing sheet will also be emailed to the participant after the interview (along with another copy of the resource list).

The participant will be thanked for their time.

Reference

Sekhon, M., Cartwright, M., Francis, J. J., 2017. Acceptability of healthcare interventions: an overview of reviews and development of a theoretical framework. BMC Health Serv Res. 17(88). https://doi: 10.1186/s12913-017-2031-8.

Appendix G – Study 3 – Qualitative HCPs: Interview schedule and topic guide

INTERVIEW SCHEDULE & TOPIC GUIDE

STUDY TITLE: An interview study with healthcare practitioners working in maternity care to explore the acceptability of administering different questions about suicide

REC Reference Number: ETH2122-0828 Lead Researcher: Elizabeth Dudeney

Introduction (5 mins)

General introduction and thanks for taking part.

Researcher will ask the participant to verbally consent to taking part in the interview.

To provide context, some background to the study will be outlined in a conversation with the participant. This will include:

- Summarising that some women experience suicidal thoughts and behaviours during pregnancy and after birth, and this happens more frequently in perinatal women than women in the general population.
- Importance of trying to identify these women so that they care receive appropriate and timely support and treatment.
- There are several different questions that perinatal women might be asked to identify potential suicidality. However, there has been limited research to show which questions healthcare practitioners feel most comfortable asking and/or which are most acceptable to them. There is also limited evidence about their utility or the feasibility of implementing different suicidality screening assessments into routine maternity care.
- This study is looking at the acceptability and relevance of the suicidality items from seven assessment measures, most of which are used more widely to screen for depression.

Suicidality questions (20-25 mins)

The participant will be asked to sequentially read out aloud a list of suicidality questions (and the corresponding response choices) and to verbally express their thoughts on each of these (e.g., think aloud) in terms of how they might feel administering the question to a pregnant or postnatal women in practice.

The researcher will also prompt the participant to consider the following (after they had read out each question):

- Was there any confusion, difficulty or ambiguity that the participant might have felt when reading the questions, and if so, which ones in particular.
- The relevance of the items (e.g., which may be more relevant to ask pregnant and/or postnatal women, and which might not be? Why?).
- Anything that might be deemed too sensitive to ask or that might inhibit the participant from administering the question to a pregnant or postnatal women.
- Any thoughts or ideas of how the questions could be modified and/or improved.
- Would the participant feel comfortable asking the question.

The participant will be reminded that they are free to take a break or stop the interview at any time, should they wish to.

The participant will then read out the following questions and response options:

Edinburgh Postnatal Depression Scale, Item-10

Over the PAST SEVEN-DAYS:

1. The thought of harming myself has occurred to me

[ ] Never
[ ] Hardly ever
[ ] Sometimes
[ ] Yes, quite often

The Postpartum Depression Screening Scale, Suicidal Thoughts Subscale

Over the PAST TWO-WEEKS:

1. I started thinking that I would be better off dead

[ ] Strongly disagree
[ ] Disagree
[ ] Neither disagree or agree
[ ] Agree
[ ] Strongly agree

2. I've thought that death seemed like the only way out of this living nightmare

[ ] Strongly disagree
[ ] Disagree
[ ] Neither disagree or agree
[ ] Agree
[ ] Strongly agree

3. I wanted to hurt myself

[ ] Strongly disagree
[ ] Disagree
[ ] Neither disagree or agree
[ ] Agree

[ ] Strongly agree

4. I felt that my baby would be better off without me

[ ] Strongly disagree
[ ] Disagree
[ ] Neither disagree or agree
[ ] Agree
[ ] Strongly agree

5. I just wanted to leave this world

[ ] Strongly disagree
[ ] Disagree
[ ] Neither disagree or agree
[ ] Agree
[ ] Strongly agree

Patient Health Questionnaire-9, Item-9

Over the PAST SEVEN-DAYS:

1. Have you had thoughts that you would be better off dead, or of hurting yourself in some way?

[ ] Not at all
[ ] Several days
[ ] More than half the days
[ ] Nearly every day

Inventory of Depression and Anxiety, Suicidality Subscale

Over the PAST TWO-WEEKS:

1. I had thoughts of suicide

[ ] Not at all
[ ] A little bit
[ ] Moderately
[ ] Quite a bit
[ ] Extremely

2. I hurt myself purposely

[ ] Not at all
[ ] A little bit
[ ] Moderately
[ ] Quite a bit
[ ] Extremely

3. I thought about my own death

[ ] Not at all
[ ] A little bit
[ ] Moderately
[ ] Quite a bit
[ ] Extremely

4. I thought about hurting myself

[ ] Not at all
[ ] A little bit
[ ] Moderately
[ ] Quite a bit
[ ] Extremely

5. I cut or burned myself on purpose

[ ] Not at all
[ ] A little bit
[ ] Moderately
[ ] Quite a bit
[ ] Extremely

6. I thought that the world would be better off without me

[ ] Not at all
[ ] A little bit
[ ] Moderately
[ ] Quite a bit
[ ] Extremely

Ultra-short Maternal Mental Health Screen – Suicidal Thoughts Item

During the PAST MONTH:

1. Has the thought of committing suicide often occurred to you?

[ ] Yes
[ ] No

Self-Reporting Questionnaire-20, Item-17

During the PAST MONTH:

1. Has the thought of ending your life been on your mind?

[ ] Yes
[ ] No

The Beck Depression Inventory, Item-9

Over the PAST SEVEN-DAYS:

(Choose one of the following options)

[ ] I don't have any thoughts of killing myself
[ ] I have thoughts of killing myself, but I would not carry them out
[ ] I would like to kill myself
[ ] I would kill myself if I had the chance

Semi-structured interview (20-25 mins)

Following from the suicidality questions, there will be a more open discussion which will be framed in line with Sekhon et al. (2017) model of 'acceptability' and relevant literature. Questions will include:

- Anything that the participant felt was overlooked by these questions (e.g., aspects that may be important to ask about when discussing suicide with perinatal women).
- When might be best time to ask suicide related questions (e.g., during pregnancy, after birth, or both?). At all contacts with healthcare practitioners, or some?
- How should questions about suicide be introduced?
- What might be the preferred method for administering suicide related questions (e.g., filing out a form, being asked verbally by a healthcare practitioner etc.).
- Should there be a stepped care approach (e.g., asking less intrusive mental health questions first and if responses indicate distress, then questions about suicide are asked), or ask the suicide questions at the same time as other mental health questions?
- Any personal experiences of administering suicidality or mental health screening in the past, and if so, what was helpful/effective and what wasn't.
- Does the participant think that it is feasible to implement suicidality screening into routine maternity care? If yes, what type of assessment? What is it important to bear in mind? If no, why not?
- What are the barriers of discussing suicide, and/or asking suicide screening questions with perinatal women?

Conclusions and debriefing (5-10 mins)

The researcher will then ask the participant if there is anything else that they think is important to discuss that hasn't been covered. The researcher will also ask how the participant is feeling, after the interview has finished.

Following this, the researcher will read the debriefing sheet out aloud to the participant and ask if they have any further questions or concerns. The debriefing sheet will also be emailed to the participant after the interview (along with another copy of the resource list).

The participant will be thanked for their time.

Reference

Sekhon, M., Cartwright, M., Francis, J. J., 2017. Acceptability of healthcare interventions: an overview of reviews and development of a theoretical framework. BMC Health Serv Res. 17(88). https://doi: 10.1186/s12913-017-2031-8.

Appendix H – Study 4 – Delphi Study: Panellist instructions for online survey(s)

DELPHI QUESTIONS

STUDY TITLE: Development and consensus on questions to measure perinatal suicidality: A Delphi study

REC Reference Number: ETH2223-0074 Lead Researcher: Elizabeth Dudeney

Welcome and thank you again for taking part in the first round of this Delphi study titled '**Development and consensus on questions to measure perinatal suicidality**' (City, University of London REC Reference Number: ETH2223-0074). This round will now be live until the 15th February 2023.

On the next page you will be asked to complete a consent form and some brief demographic information before accessing the main survey.

The survey questions have been split into the following sections:
Section 1) screening
Section 2) suicidal ideation
Section 3) suicide plans
Section 4) suicide behaviours
Section 5) suicide attempts
Section 6) suicidality history

In each section you will be asked to rate a number of questions (and their corresponding response choices) on a four-point Likert type scale in terms of:

RELEVANCE:
Is this a relevant question to ask perinatal women?
4 = highly relevant, 3 = quite relevant, 2 = somewhat relevant, 1 = not relevant

Are the response options relevant to the question and/or topic of interest?
4 = highly relevant, 3 = quite relevant, 2 = somewhat relevant, 1 = not relevant

CLARITY:
Is it clear what this question is asking about?
4 = highly clear, 3 = quite clear, 2 = somewhat clear, 1 = not clear

Are the response options clear and distinguishable?
4 = highly clear, 3 = quite clear, 2 = somewhat clear, 1 = not clear

ACCEPTABILITY:
Do you think perinatal women would find it acceptable to be asked this question?

4 = highly acceptable, 3 = quite acceptable, 2 = somewhat acceptable, 1 = not acceptable

Are the response options acceptable?
4 = highly acceptable, 3 = quite acceptable, 2 = somewhat acceptable, 1 = not acceptable

EFFECTIVENESS:
Do you think that this question will be effective for identifying suicidality in perinatal women?
4 = highly effective, 3 = quite effective, 2 = somewhat effective, 1 = not effective

FEASIBILITY:
Do you think this is a feasible question to ask in maternity care settings?
4 = highly feasible, 3 = quite feasible, 2 = somewhat feasible, 1 = not feasible

Each question (and its corresponding response choices) will be displayed on a new page, and you will be asked to rate the question first, then the response scale. You will also be able to add text comments, should you wish.

Upon completion of the main survey sections, you will asked to comment on a few open ended questions, and you will be given the opportunity to provide overall text feedback on this topic area in general, before accessing the 'debrief' page.

If you have any questions at all, please do get in touch; I am very happy to answer your queries.

With thanks and best wishes,

Elizabeth Dudeney
[redacted]

SECTION 1: Screening questions for identifying suicidal and/or self-harm ideation during the perinatal period (questions that could be used as an initial step to understand whether a subsequent assessment is warranted).

1a. "Since we last met/since the start of your pregnancy/since the birth of your baby (delete as appropriate), has the thought of harming yourself occurred to you"

NOTE: This includes thoughts about causing physical or emotional harm to yourself, and/or thoughts about ending your own life.

[ ] Never
[ ] Sometimes
[ ] Quite often
[ ] Most of the time

1b. "Since we last met/since the start of your pregnancy/since the birth of your baby (delete as appropriate), have you had thoughts about hurting yourself in some way"

NOTE: This includes thoughts about causing physical or emotional hurt to yourself, and/or thoughts about ending your own life.

[ ] Never
[ ] Sometimes

[ ] Quite often
[ ] Most of the time

1c. “Since we last met/since the start of your pregnancy/since the birth of your baby (delete as appropriate), have you had thoughts that your baby, friends or family would be better off without you?”

[ ] Never
[ ] Sometimes
[ ] Quite often
[ ] Most of the time

1d. “Since we last met/since the start of your pregnancy/since the birth of your baby (delete as appropriate), have you had thoughts about hurting yourself in some way or of not wanting to be alive?”

[ ] Never
[ ] Sometimes
[ ] Quite often
[ ] Most of the time

1e. “Since we last met/since the start of your pregnancy/since the birth of your baby (delete as appropriate), have you had thoughts of:

Physically or emotionally hurting yourself in some way?	Yes [ ]	No [ ]
Ending your own life?	Yes [ ]	No [ ]

.....

Please note, from the next section forward, questions will be related to suicidal ideation and suicidal behaviours only. Whilst we recognise that there is significant overlap between self-harming behaviours and suicidality, and that all self-harming behaviours need to be taken into account during any assessment of risk and/or support needs, the purpose of this study is to evaluate questions related to perinatal suicidality.

Following a positive endorsement to a screening question, the questions below could either be used in isolation (e.g., to explore specific suicidality constructs) or in various combinations to elicit a more in-depth discussion. If a woman positively endorses a question in Section 2 (suicidal ideation), it may be necessary to ask about suicidal plans (Section 3) and so forth. Subsequent questions asked are dependent on responses to earlier questions and any conversation generated. However, it recognised that not all women who experience suicidal ideation would need to be asked about suicidal plans and behaviours.

In addition, to provide a complete picture of suicidality risk and support needs, questions about the following areas may also need to be further explored by a trained professional via a comprehensive biopsychosocial assessment:

Severity/intensity of suicidal ideation, frequency of thoughts, access to means, intentions to act, risk of hurting other people or baby, other known risk factors, support networks/protective factors and additional mental health problems*.

***This list is not exhaustive**

SECTION 2: Questions about suicidal ideation (passive, active and/or both) during the perinatal period

2a. "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that you don't want to be alive?"

[ ] Never
[ ] Sometimes
[ ] Quite often
[ ] Most of the time

2b. "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you wished you could go to sleep and not wake up?"

[ ] Never
[ ] Sometimes
[ ] Quite often
[ ] Most of the time

2c. "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about suicide?"

[ ] Never
[ ] Sometimes
[ ] Quite often
[ ] Most of the time

2d. "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about ending your own life?"

[ ] Never
[ ] Sometimes
[ ] Quite often
[ ] Most of the time

2e. "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that you don't want to be alive, or of ending your own life?"

[ ] Never
[ ] Sometimes
[ ] Quite often
[ ] Most of the time

2f. "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate]":

(Choose one of the following options)

[ ] I haven't had thoughts about ending my own life
[ ] I have had thoughts about ending my own life, but I would not carry them out
[ ] I have had thoughts about ending my own life

SECTION 3: Questions about suicide plans during the perinatal period

A timescale (e.g., over the past month, past week, since pregnancy etc.) has not been included for the following questions.

3a. "Have you made plans to end your own life?"

[ ] Yes
[ ] No

3b. "Have you had thoughts about how you might end your own life?"

[ ] Yes
[ ] No

3c. "Have you told anyone that you have made plans to end your own life?"

[ ] Yes
[ ] No

SECTION 4: Questions about suicidal behaviours during the perinatal period

A timescale (e.g., over the past month, past week, since pregnancy etc.) has not been included for the following questions.

4a. "Have you made preparations to end your own life?"

[ ] Yes
[ ] No

4b. "Have you taken steps to end your own life (for example, obtaining pills or equipment)?"

[ ] Yes
[ ] No

4c. "Have you made arrangements for ending your own life (for example, getting your financial affairs in order or writing a note to loved ones)?"

[ ] Yes
[ ] No

4d. "Do you feel there is an immediate risk that you will attempt to end your own life?"

[ ] Yes
[ ] No

SECTION 5: Questions about suicide attempts during the perinatal period

5a. "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you made any suicide attempts?"

[ ] Yes
[ ] No

5b. "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you attempted to end your own life in some way?"

[ ] Yes
[ ] No

SECTION 6: Questions about suicidality history (prior to the perinatal period)

6a. "Prior to your most recent pregnancy, have you experienced suicidal thoughts in the past?"

[ ] Yes
[ ] No

6b. "Prior to your most recent pregnancy, have you attempted to end your own life in the past?"

[ ] Yes
[ ] No

General questions and comments

Below you will be asked a few open-ended questions, and to provide any general feedback.

- Do you think questions to identify suicidal ideation (and/or suicidal behaviours) should be asked to all perinatal women? And if so, when should these be asked (e.g., in pregnancy, after birth, both or at all contacts)?

- How do you think questions about suicide should be introduced (e.g., face-to-face conversation, on paper/on an iPad, or both)?

- Do you think perinatal women are given enough information about changes to mental health (and suicidality) during pregnancy and after birth, and/or what services are available to support them?

- Please add any further comments you have about the questions overall, and/or this topic in general here.

Debrief information

Thank you for taking part in the first questionnaire in this two-round Delphi study. Your participation will help us to better understand (and reach a consensus on) which suicide-related questions may be the most relevant to use for identifying suicidality in perinatal women. It will also help us to develop a preliminary assessment measure that could be used in maternity care settings.

We appreciate that thinking about and talking about suicide can be a sensitive and emotive topic. If this research has raised any concerns for you, or if you think that a woman in your care may benefit from additional support, please either contact a GP, or contact one of the support lines listed in the resource sheet attached (please note, these are UK based organisations).

The lead researcher will contact you again in March 2023 (via email) to send you the aggregated ratings and feedback report from the first questionnaire, and a link for you to complete the second questionnaire.

We sincerely thank you again for your participation and time. If you have any questions regarding this research or want to discuss an aspect of the study further, please do not hesitate to contact us at the following:

Elizabeth Dudeney - [redacted]
Dr Rose Coates - [redacted]

Appendix I – Study 4 – Delphi Study: Example few pages of round-one report sent to panellists



Development and consensus on questions to measure perinatal suicidality: A Delphi study

Round one consensus report

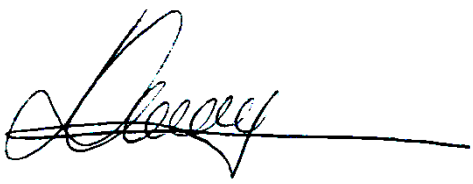
Thank you for completing round one of the Delphi study titled 'Development and consensus on questions to measure perinatal suicidality'. This report contains both the overall group outcomes and your individual ratings. We understand that you are busy, and this report is long! The most important sections to read are pages 1-2 which provide a written summary of the main findings, and pages 3-5 which include tables of the item rankings.

Throughout the rest of the report, you will see your item rankings compared with the rankings of the other panel members. There is both quantitative data (e.g., bar graphs, mean scores and consensus levels per dimension) and qualitative data. Your individual rankings are highlighted in yellow in each bar chart.

For the quantitative data, consensus has been determined as ≥ 70% of panellists scoring 'quite' or 'highly' on a dimension, and for the qualitative data, the comments/feedback per item have been analysed in the following ways: i) each statement was coded as either 'supportive' (in support of the item) 'unsupportive' (not in support of the item and/or changes were suggested) or 'not applicable' (the statement related to the topic more broadly rather than the question/response options specifically); and ii) codes were applied to each individual statement to explore overall key themes.

Before you complete the second survey, please look at the main findings in this report. The questions in the second survey remain the same, but we would now like you to consider your answers in light of the group outcomes and feedback (e.g., whether you choose to rate each item the same as before or change your rating). You may find that it saves time to keep this report open when completing the second questionnaire.

Thank you again for your participation, it is greatly appreciated.



Elizabeth Dudeney

Brief overview of main findings

Panellist demographics

Twenty-six panellists with an interest and/or expertise in perinatal mental health and/or suicidality took part in the first round of this Delphi study. Twenty panellists were from England or the UK, three were from the USA, one was from the UAE, one was from Ireland, and one was from New Zealand. There was a good spread of expertise amongst the panellists with 54% working in academic fields, 19% in midwifery, 15% in the third sector, and 12% in other clinical roles. Years of experience in these professions ranged from one to 30 years.

SECTION 1 - Screening questions for identifying suicidal and/or self-harm ideation during the perinatal period

Five items were included in this section. The top-rated item was 1c which achieved consensus on four out of five dimensions (relevance, clarity, acceptability, and feasibility) with a mean dimension score of *M* = 77% ("Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that your baby, friends or family would be better off without you?"). Consensus on the response scales was also achieved for all three dimensions (relevance, clarity, and acceptability) for all items (1a to 1e). Key qualitative themes identified include: i) lack of clarity; ii) stigmas; iii) implications of the response options; iv) concept of 'emotional' harm; and v) specificity of question wording.

SECTION 2 - Questions about suicidal ideation (passive, active and/or both) during the perinatal period

Six items were included in this section. Four items achieved consensus on all five dimensions (2d, 2a, 2e, and 2c) with 2d achieving the highest mean dimension score of *M* = 95% ("Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about ending your own life?"). Consensus on the response scales was also achieved for all items except 2f which only achieved consensus for the dimension 'relevance'. Key qualitative themes identified include: i) passive vs active ideation; ii) implications of the different words/phrases used to ask about suicide; iii) implications of asking about two constructs in one question; iv) implications of the response options; and v) potential barriers for endorsement.

SECTION 3 - Questions about suicide plans during the perinatal period

Three items were included in this section. The top-rated item was 3b which achieved consensus on all five dimensions with a mean dimension score of *M* = 84% ("Have you had thoughts about how you might end your own life?"). Consensus on the response scales was also achieved for all dimensions, for all three items (3a to 3c). Key qualitative themes identified include: i) context; ii) timeframes; iii) definition of terms; and iv) implications of binary response options.

SECTION 4 - Questions about suicidal behaviours during the perinatal period

Four items were included in this section. Two items achieved consensus on all five dimensions (4d and 4b) with 4d achieving the highest mean dimension score of *M* = 84% ("Do you feel there is an immediate risk that you will attempt to end your own life?"). Consensus on the response scales was also achieved for all dimensions, for all four items (4a to 4d). Key qualitative themes identified include: i) definition of terms; and ii) implications of question wording.

SECTION 5 - Questions about suicide attempts during the perinatal period

Two items were included in this section. The top-rated item was 5a which achieved consensus on all five dimensions with a mean dimension score of *M* = 90% ("Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you made any suicide attempts?"). Consensus on the response scales was also achieved for all dimensions, for both items (5a and 5b). Key qualitative themes identified include: i) implications of question wording; and ii) implications of binary response options.

SECTION 6 - Questions about suicidality history (prior to the perinatal period)

Two items were included in this section. Both items achieved consensus on all five dimensions with 6a achieving a mean dimension score of *M* = 89% ("Prior to your most recent pregnancy, have you experienced suicidal thoughts in the past?"), and 6b achieving *M* = 88% ("Prior to your most recent pregnancy, have you attempted to end your own life in the past?"). Consensus on the response scales was also achieved for all dimensions, for both items. Key qualitative themes identified include: i) implications of question wording; and ii) implications of binary response options.

Item consensus rankings

NOTE: Consensus has been determined as ≥ 70% of panellists answering 'quite' or 'highly' for any given dimension.

SECTION 1: Screening

Rank	Question number	Question content	Number of dimensions out of five ≥ 70% consensus	Mean dimension score (%)
#1	1c	"Since we last met/since the start of your pregnancy/since the birth of your baby (delete as appropriate), have you had thoughts that your baby, friends or family would be better off without you?"	4 dimensions: Relevance, Clarity, Acceptability, Feasibility	77%
#2	1b	"Since we last met/since the start of your pregnancy/since the birth of your baby (delete as appropriate), have you had thoughts about hurting yourself in some way?"	3 dimensions: Relevance, Clarity, Feasibility	72%
#3	1e	"Since we last met/since the start of your pregnancy/since the birth of your baby (delete as appropriate), have you had thoughts of: physically or emotionally hurting yourself in some way; ending your life?"	2 dimensions: Relevance, Effectiveness	72%
#4	1d	"Since we last met/since the start of your pregnancy/since the birth of your baby (delete as appropriate), have you had thoughts about hurting yourself in some way or of not wanting to be alive?"	2 dimensions: Relevance, Feasibility	69%
#5	1a	"Since we last met/since the start of your pregnancy/since the birth of your baby (delete as appropriate), has the thought of harming yourself occurred to you?"	1 dimension: Relevance	68%

NOTE: The mean dimension score has been calculated as follows: total % of panellists responding 'quite' or 'highly' for each of the five dimensions, summed and divided by five.

SECTION 2: Suicidal ideation

Rank	Question number	Question content	Number of dimensions ≥ 70% consensus	Mean dimension score (%)
#1	2d	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about ending your own life?"	5 dimensions: Relevance, Clarity, Acceptability, Effectiveness, Feasibility	95%
#2	2a	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that you don't want to be alive?"	5 dimensions: Relevance, Clarity, Acceptability, Effectiveness, Feasibility	88%
#3	2e	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that you don't want to be alive, or of ending your own life?"	5 dimensions: Relevance, Clarity, Acceptability, Effectiveness, Feasibility	85%

#4	2c	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about suicide?"	5 dimensions: Relevance, Clarity, Acceptability, Effectiveness, Feasibility	84%
#5	2f	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate]: I haven't had thoughts about ending my own life; I have had thoughts about ending my own life, but I would not carry them out; I have had thoughts about ending my own life."	1 dimension: Relevance	62%
#6	2b	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you wished you could go to sleep and not wake up?"	0 dimensions	60%

NOTE: The mean dimension score has been calculated as follows: total % of panellists responding 'quite' or 'highly' for each of the five dimensions, summed and divided by five.

SECTION 3: Suicide plans

Rank	Question number	Question content	Number of dimensions ≥ 70% consensus	Mean dimension score (%)
#1	3b	"Have you had thoughts about how you might end your own life?"	5 dimensions: Relevance, Clarity, Acceptability, Effectiveness, Feasibility	84%
#2	3a	"Have you made plans to end your own life?"	4 dimensions: Relevance, Clarity, Effectiveness, Feasibility	81%
#3	3c	"Have you told anyone that you have made plans to end your own life?"	4 dimensions: Relevance, Clarity, Effectiveness, Feasibility	77%

NOTE: The mean dimension score has been calculated as follows: total % of panellists responding 'quite' or 'highly' for each of the five dimensions, summed and divided by five.

SECTION 4: Suicide behaviours

Rank	Question number	Question content	Number of dimensions ≥ 70% consensus	Mean dimension score (%)
#1	4d	"Do you feel there is an immediate risk that you will attempt to end your own life?"	5 dimensions: Relevance, Clarity, Acceptability, Effectiveness, Feasibility	84%
#2	4b	"Have you taken steps to end your own life (for example, obtaining pills or equipment)?"	5 dimensions: Relevance, Clarity, Acceptability, Effectiveness, Feasibility	81%

#3	4a	"Have you made preparations to end your own life?"	4 dimensions: Relevance, Clarity, Acceptability, Effectiveness	77%
#4	4c	"Have you made arrangements for ending your own life (for example, getting your financial affairs in order or writing a note to loved ones)?"	3 dimensions: Relevance, Clarity, Effectiveness	71%

NOTE: The mean dimension score has been calculated as follows: total % of panellists responding 'quite' or 'highly' for each of the five dimensions, summed and divided by five.

SECTION 5: Suicide attempts

Rank	Question number	Question content	Number of dimensions ≥ 70% consensus	Mean dimension score (%)
#1	5a	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you made any suicide attempts?"	5 dimensions: Relevance, Clarity, Acceptability, Effectiveness, Feasibility	90%
#2	5b	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you attempted to end your own life in some way?"	4 dimensions: Relevance, Clarity, Effectiveness, Feasibility	85%

NOTE: The mean dimension score has been calculated as follows: total % of panellists responding 'quite' or 'highly' for each of the five dimensions, summed and divided by five.

SECTION 6: Suicidality history

Rank	Question number	Question content	Number of dimensions ≥ 70% consensus	Mean dimension score (%)
#1	6a	"Prior to your most recent pregnancy, have you experienced suicidal thoughts in the past?"	5 dimensions: Relevance, Clarity, Acceptability, Effectiveness, Feasibility	89%
#2	6b	"Prior to your most recent pregnancy, have you attempted to end your own life in the past?"	5 dimensions: Relevance, Clarity, Acceptability, Effectiveness, Feasibility	88%

NOTE: The mean dimension score has been calculated as follows: total % of panellists responding 'quite' or 'highly' for each of the five dimensions, summed and divided by five.

Detailed findings - Your ratings compared with the rest of the panel

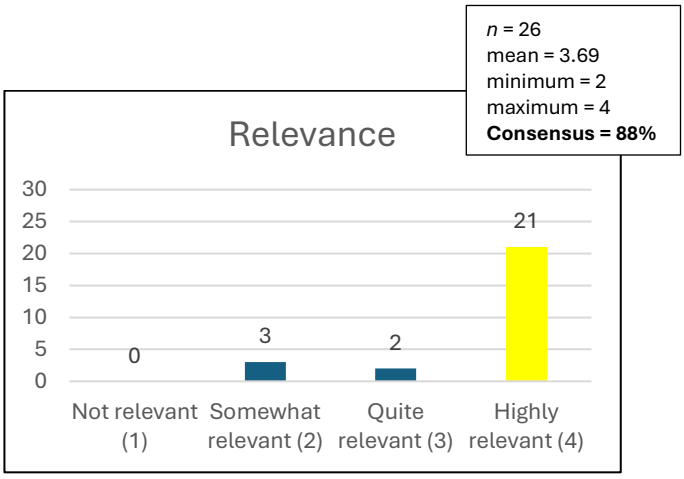
PLEASE NOTE THAT YOUR INDIVIDUAL RATING PER DIMENSION IS PRESENTED AS A YELLOW BAR (e.g., if you chose 'somewhat relevant' for question 1a then the corresponding bar in the 'relevance' chart will be in yellow rather than blue).

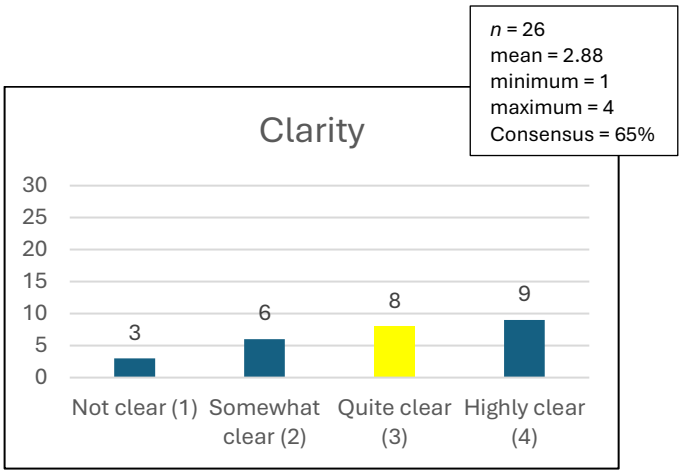
SECTION 1: Screening questions for identifying suicidal and/or self-harm ideation during the perinatal period

1a. Question

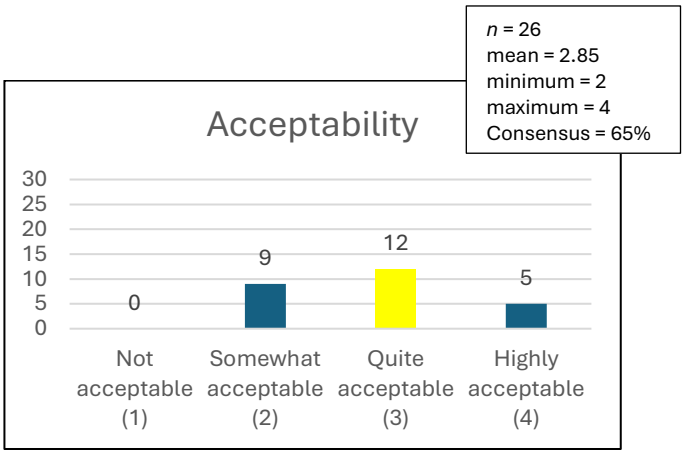
"Since we last met/since the start of your pregnancy/since the birth of your baby (delete as appropriate), has the thought of harming yourself occurred to you?"

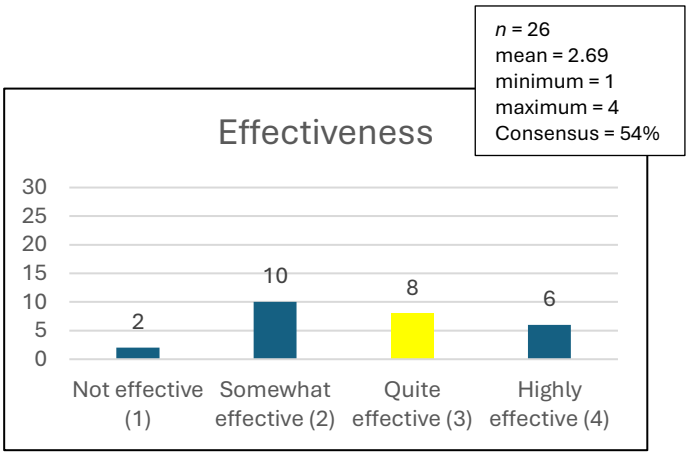
NOTE: This includes thoughts about causing physical or emotional harm to yourself, and/or thoughts about ending your own life.

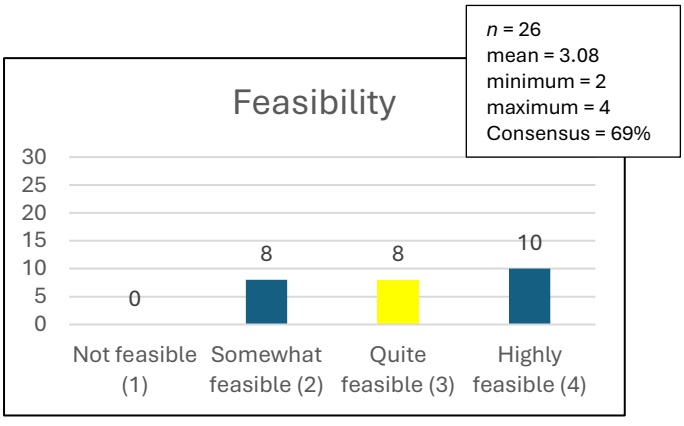


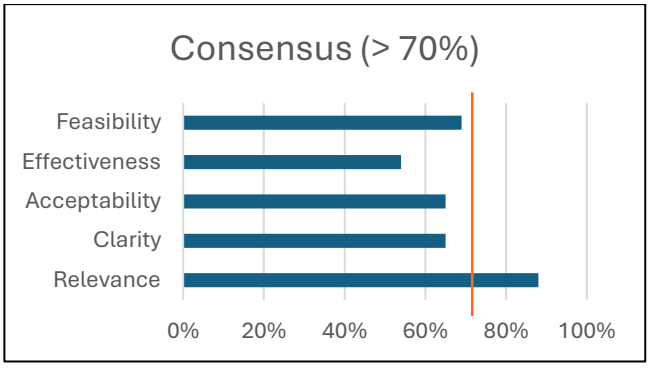


Y = Number of panellists, X = scale response options





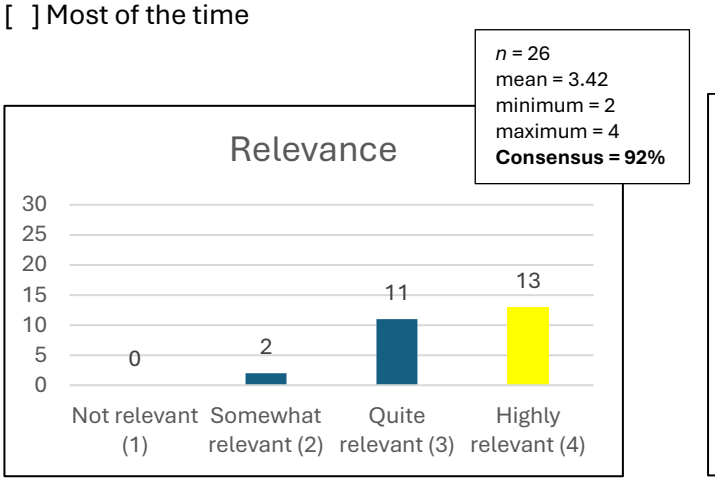


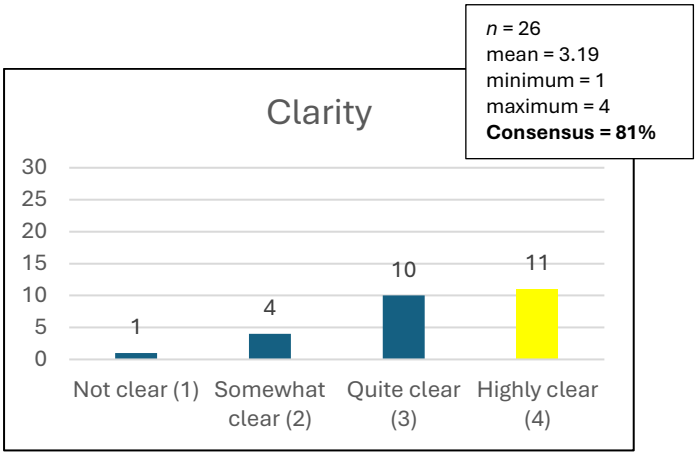


Consensus ≥ 70% was reached for one dimension

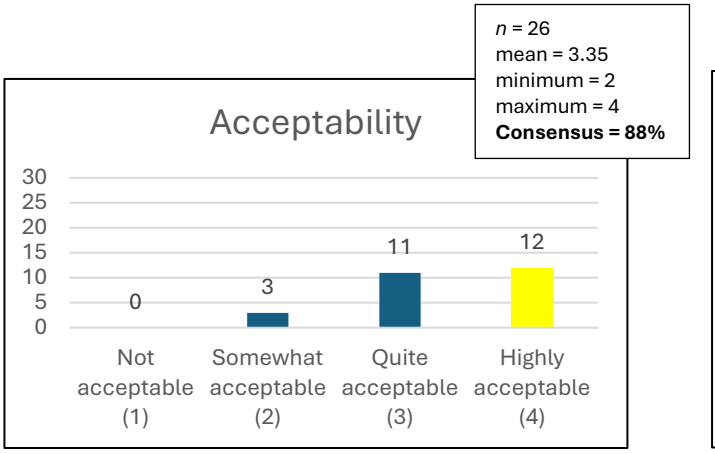
1a. Question Response Options

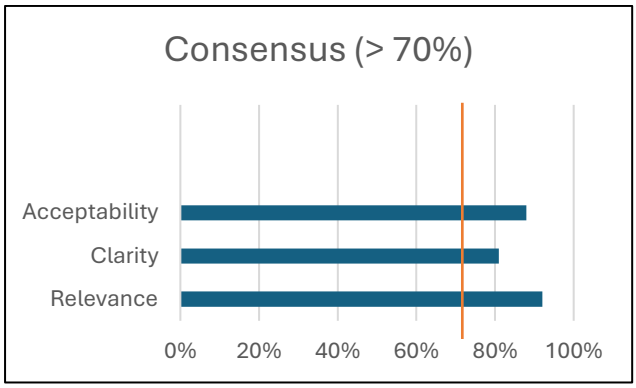
[ ] Never
[ ] Sometimes
[ ] Quite often
[ ] Most of the time





Y = Number of panellists, X = scale response options





Consensus ≥ 70% was reached for all three dimensions

1a. Comments

Qualitative findings

Eighteen panellists commented on this item. One statement was identified in support of this item, and twelve statements were identified as non-supportive. No statements were identified in support of this item's response scale, and six statements were identified as non-supportive. There were also comments from four panellists which were not considered as either supportive or unsupportive (e.g., these comments related to the topic more broadly rather than the question/response options specifically). **NB. Some panellist comments included more than one unique statement (e.g., they may have stated two or more points).**

The following key themes were identified: i) the item is too vague, broad and lacks clarity e.g., *"harming yourself is too vague and the spectrum of emotional harm to yourself - ending your own life is too broad"*; ii) perceived stigma, cultural background and fear may prevent women from answering this question honestly e.g., *"due to the stigma around suicide or self-harm, it's always a difficult question to be asked, especially in the perinatal context when, socially speaking, you're supposed to feel gratitude and overall happiness. Culturally, there might also be some people who react negatively to the question"*; iii) some of the response options do not differentiate well e.g., *"how do you distinguish between 'sometimes' and 'quite often'? Also, 'most of the time' might be better as 'almost always'"*; and iv) the concept of 'emotional harm' might be too abstract and requires clarification e.g., "*will women know what is meant by 'causing EMOTIONAL harm to themselves' - physical harm is easier to answer, whereas emotional harm to self is more abstract perhaps*".

Appendix J – Study 4 – Delphi Study: Consensus ratings for items (comprehensive)

Dimensional and item-level consensus scores (%) based on the number of panellists endorsing 'quite' or 'highly'

Suicidal and/or self-harm ideation screening items					
Item 1d	**"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about hurting yourself in some way or of not wanting to be alive?"**				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**84.61%**	*n* = 22(26)	**83.33%**	*n* = 20(24)	(-)1.28%
Clarity	61.54%	*n* = 16(26)	**70.83%**	*n* = 17(24)	(+)9.29%
Acceptability	61.54%	*n* = 16(26)	**73.91%**	*n* = 17(23)	(+)12.37%
Effectiveness	65.38%	*n* = 17(26)	**73.91%**	*n* = 17(23)	(+)8.53%
Feasibility	**72.00%**	*n* = 18(25)	**81.81%**	*n* = 18(22)	(+)9.81%
Mean	69.01%		**76.75%**		(+)7.74%
No. dimensions ≥ 70%	2		**5**		(+)3
Rank order	N/A		1		
Item 1a	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], has the thought of harming yourself occurred to you?" NOTE: This includes thoughts about causing physical or emotional harm to yourself, and/or thoughts about ending your own life.				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**88.46%**	*n* = 23(26)	**95.83%**	*n* = 23(24)	(+)7.37%
Clarity	65.39%	*n* = 17(26)	**78.26%**	*n* = 18(23)	(+)12.87%
Acceptability	65.38%	*n* = 17(26)	**73.91%**	*n* = 17(23)	(+)8.53%
Effectiveness	53.85%	*n* = 14(26)	60.87%	*n* = 14(23)	(+)7.02%
Feasibility	69.23%	*n* = 18(26)	**82.61%**	*n* = 19(23)	(+)13.38%
Mean	68.46%		78.29%		(+)9.83%
No. dimensions ≥ 70%	1		4		(+)3
Rank order	N/A		N/A		
Item 1b	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about hurting yourself in some way?" NOTE: This includes thoughts about causing physical or emotional hurt to yourself, and/or thoughts about ending your own life.				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)

Relevance	**84.62%**	*n* = 22(26)	**91.67%**	*n* = 22(24)	(+)7.05%
Clarity	**73.08%**	*n* = 19(26)	**73.91%**	*n* = 17(23)	(+)0.83%
Acceptability	65.38%	*n* = 17(26)	**73.91%**	*n* = 17(23)	(+)8.53%
Effectiveness	57.69%	*n* = 15(26)	60.87%	*n* = 14(23)	(+)3.18%
Feasibility	**80.77%**	*n* = 21(26)	**86.96%**	*n* = 20(23)	(+)6.19%
Mean	72.30%		77.46%		(+)5.16
No. dimensions ≥ 70%	3		4		(+)1
Rank order	N/A		N/A		

Item 1c "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that your baby, friends or family would be better off without you?"

Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**84.62%**	*n* = 22(26)	**91.67%**	*n* = 22(24)	(+)7.05%
Clarity	**73.07%**	*n* = 19 (26)	65.21%	*n* = 15(23)	(-)7.86%
Acceptability	**73.07%**	*n* = 19 (26)	**78.26%**	*n* = 18(23)	(+)5.19%
Effectiveness	65.38%	*n* = 17 (26)	69.56%	*n* = 16(23)	(+)4.18%
Feasibility	**88.46%**	*n* = 23 (26)	**82.61%**	*n* = 19(23)	(-)5.85%
Mean	76.92%		77.46%		(+)0.54%
No. dimensions ≥ 70%	4		3		(-)1
Rank order	N/A		N/A		

Item 1e "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts of": (1) physically or emotionally hurting yourself in some way; (2) ending your life?"

Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**88.47%**	*n* = 23(26)	**91.67%**	*n* = 22(24)	(+)3.20%
Clarity	61.54%	*n* = 16(26)	58.33%	*n* = 14(24)	(-)3.21%
Acceptability	65.39%	*n* = 17(26)	**75.00%**	*n* = 18(24)	(+)9.61%
Effectiveness	**73.08%**	*n* = 19(26)	62.50%	*n* = 15(24)	(-)10.58%
Feasibility	69.23%	*n* = 18(26)	**70.83%**	*n* = 17(24)	(+)1.60%
Mean	71.54%		71.66%		(+)0.12%
No. dimensions ≥ 70%	2		3		(+)1

Rank order	N/A		N/A		
			Suicidal ideation items		
Item 2d	**"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about ending your own life?"**				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**100.00%**	*n* = 26(26)	**95.84%**	*n* = 23(24)	(-)4.16%
Clarity	**100.00%**	*n* = 26(26)	**95.84%**	*n* = 23(24)	(-)4.16%
Acceptability	**92.31%**	*n* = 24(26)	**79.17%**	*n* = 19(24)	(-)13.14%
Effectiveness	**100.00%**	*n* = 26(26)	**100.00%**	*n* = 23(23)	-
Feasibility	**84.62%**	*n* = 22(26)	**95.45%**	*n* = 21(22)	(+)10.83%
Mean	**95.38%**		**93.26%**		(-)2.12%
No. dimensions ≥ 70%	**5**		**5**		-
Rank order	N/A		1		
Item 2c	**"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about suicide?"**				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**92.31%**	*n* = 24(26)	**95.83%**	*n* = 23(24)	(+)3.52%
Clarity	**92.31%**	*n* = 24(26)	**95.83%**	*n* = 23(24)	(+)3.52%
Acceptability	**73.08%**	*n* = 19(26)	**79.16%**	*n* = 19(24)	(+)6.08%
Effectiveness	**84.62%**	*n* = 22(26)	**91.67%**	*n* = 22(24)	(+)7.05%
Feasibility	**76.93%**	*n* = 20(26)	**86.96%**	*n* = 20(23)	(+)10.03%
Mean	**83.85%**		**89.89%**		(+)6.04%
No. dimensions ≥ 70%	**5**		**5**		-
Rank order	N/A		2		
Item 2a	**"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that you don't want to be alive?"**				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**96.15%**	*n* = 25(26)	**95.83%**	*n* = 23(24)	(-)0.32%
Clarity	**96.15%**	*n* = 25(26)	**95.83%**	*n* = 23(24)	(-)0.32%

Acceptability	**73.08%**	*n* = 19(26)	**83.33%**	*n* = 20(24)	(+)10.25%
Effectiveness	**88.46%**	*n* = 23(26)	**79.17%**	*n* = 19(24)	(-)9.29%
Feasibility	**84.00%**	*n* = 21(25)	**87.50%**	*n* = 21(24)	(+)3.50%
Mean	**87.56%**		**88.33%**		(+)0.77%
No. dimensions ≥ 70%	**5**		**5**		-
Rank order	N/A		3		

Item 2e **"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that you don't want to be alive, or of ending your own life?"**

Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**100%**	*n* = 26(26)	**95.84%**	*n* = 23(24)	(-)4.16%
Clarity	**80.77%**	*n* = 21(26)	**79.16%**	*n* = 19(24)	(-)1.61%
Acceptability	**80.77%**	*n* = 21(26)	**79.16%**	*n* = 19(24)	(-)1.61%
Effectiveness	**84.62%**	*n* = 22(26)	**82.61%**	*n* = 19(23)	(-)2.01%
Feasibility	**76.92%**	*n* = 20(26)	**86.96%**	*n* = 19(23)	(+)10.04%
Mean	**84.61%**		**84.74%**		(+)0.13%
No. dimensions ≥ 70%	**5**		**5**		-
Rank order	N/A		4		

Item 2f "Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate]: I haven't had thoughts about ending my own life; I have had thoughts about ending my own life, but I would not carry them out; I have had thoughts about ending my own life."

Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**84.62%**	*n* = 22(26)	**95.83%**	*n* = 23(24)	(+)11.21%
Clarity	50.00%	*n* = 13(26)	**70.83%**	*n* = 17(24)	(+)20.83%
Acceptability	57.69%	*n* = 15(26)	66.67%	*n* = 16(24)	(+)8.98%
Effectiveness	61.54%	*n* = 16(26)	69.57%	*n* = 16(23)	(+)8.03%
Feasibility	57.69%	*n* = 15(26)	**73.91%**	*n* = 17(23)	(+)16.22%
Mean	62.00%		75.36%		(+)13.36%
No. dimensions ≥ 70%	1		3		(+)2
Rank order	N/A		N/A		

Item 2b	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you wished you could go to sleep and not wake up?"				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	65.39%	*n* = 17(26)	**75.00%**	*n* = 18(24)	(+)9.61%
Clarity	53.85%	*n* = 14(26)	41.67%	*n* = 10(24)	(-)12.18%
Acceptability	69.24%	*n* = 18(26)	58.33%	*n* = 14(24)	(-)10.91%
Effectiveness	42.31%	*n* = 11(26)	25.00%	*n* = 6(24)	(-)17.31%
Feasibility	69.23%	*n* = 18(26)	63.64%	*n* = 14(22)	(-)5.59%
Mean	60.00%		52.72%		(-)7.28%
No. dimensions ≥ 70%	0		1		(+)1
Rank order	N/A		N/A		

Suicide plan items

Item 3b	**"Have you had thoughts about how you might end your own life?"**				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**96.15%**	*n* = 25(26)	**95.83%**	*n* = 23(24)	(-)0.32%
Clarity	**88.47%**	*n* = 23(26)	**95.83%**	*n* = 23(24)	(+)7.36%
Acceptability	**80.77%**	*n* = 21(26)	**83.34%**	*n* = 20(24)	(+)2.57%
Effectiveness	**76.92%**	*n* = 20(26)	**95.65%**	*n* = 22(23)	(+)18.73%
Feasibility	**76.93%**	*n* = 20(26)	**86.96%**	*n* = 20(23)	(+)10.03%
Mean	**83.84%**		**91.52%**		(+)7.68%
No. dimensions ≥ 70%	**5**		**5**		-
Rank order	N/A		1		

Item 3a	**"Have you made plans to end your own life?"**				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**92.00%**	*n* = 23(25)	**95.84%**	*n* = 23(24)	(+)3.84%
Clarity	**92.00%**	*n* = 23(25)	**100.00%**	*n* = 24(24)	(+)8.00%
Acceptability	64.00%	*n* = 16(25)	**75.00%**	*n* = 18(24)	(+)11.00%
Effectiveness	**88.00%**	*n* = 22(25)	**95.83%**	*n* = 23(24)	(+)7.83%

Feasibility	**70.83%**	*n* = 17(24)	**86.96%**	*n* = 20(23)	(+)16.13%
Mean	81.36%		**90.72%**		(+)9.36%
No. dimensions ≥ 70%	4		**5**		(+)1
Rank order	N/A		2		

Item 3c "Have you told anyone that you have made plans to end your own life?"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**76.00%**	*n* = 19(25)	**87.50%**	*n* = 21(24)	(+)11.50%
Clarity	**92.00%**	*n* = 23(25)	**83.33%**	*n* = 20(24)	(-)8.67%
Acceptability	**84.00%**	*n* = 21(25)	**79.17%**	*n* = 19(24)	(-)4.83%
Effectiveness	60.00%	*n* = 15(25)	54.17%	*n* = 13(24)	(-)5.83%
Feasibility	**75.00%**	*n* = 18(24)	**83.33%**	*n* = 20(24)	(+)8.33%
Mean	77.40%		77.50%		(+)0.10%
No. dimensions ≥ 70%	4		4		-
Rank order	N/A		N/A		

Suicidal behaviour items

Item 4d "Do you feel there is an immediate risk that you will attempt to end your own life?"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**92.30%**	*n* = 24(26)	**95.84%**	*n* = 23(24)	(+)3.54%
Clarity	**76.93%**	*n* = 20(26)	**83.33%**	*n* = 20(24)	(+)6.40%
Acceptability	**80.77%**	*n* = 21(26)	**83.33%**	*n* = 20(24)	(+)2.56%
Effectiveness	**80.77%**	*n* = 21(26)	**83.33%**	*n* = 20(24)	(+)2.56%
Feasibility	**88.46%**	*n* = 23(26)	**82.61%**	*n* = 19(23)	(-)5.85%
Mean	**83.84%**		**85.69%**		(+)1.85%
No. dimensions ≥ 70%	**5**		**5**		-
Rank order	N/A		1		

Item 4a "Have you made preparations to end your own life?"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**88.47%**	*n* = 23(26)	**91.67%**	*n* = 22(24)	(+)3.20%

Clarity	**80.77%**	*n* = 21(26)	**82.61%**	*n* = 19(23)	(+)1.84%
Acceptability	**73.07%**	*n* = 19(26)	**82.61%**	*n* = 19(23)	(+)9.54%
Effectiveness	**73.07%**	*n* = 19(26)	**82.61%**	*n* = 19(23)	(+)9.54%
Feasibility	69.23%	*n* = 18(26)	**82.61%**	*n* = 19(23)	(+)13.38%
Mean	76.92%		**84.42%**		(+)7.50%
No. dimensions ≥ 70%	4		**5**		(+)1
Rank order	N/A		2		

Item 4b "Have you taken steps to end your own life (for example, obtaining pills or equipment)?"

Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**88.46%**	*n* = 23(26)	**95.84%**	*n* = 23(24)	(+)7.38%
Clarity	**88.46%**	*n* = 23(26)	**79.17%**	*n* = 19(24)	(-)9.29%
Acceptability	**73.07%**	*n* = 19(26)	**70.83%**	*n* = 17(24)	(-)2.24%
Effectiveness	**80.77%**	*n* = 21(26)	**86.95%**	*n* = 20(23)	(+)5.88%
Feasibility	**73.08%**	*n* = 19(26)	**81.81%**	*n* = 18(22)	(+)8.73%
Mean	**80.76%**		**82.92%**		(+)2.16%
No. dimensions ≥ 70%	**5**		**5**		-
Rank order	N/A		3		

Item 4c "Have you made arrangements for ending your own life (for example, getting your financial affairs in order or writing a note to loved ones)?"

Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**76.92%**	*n* = 20(26)	**87.50%**	*n* = 21(24)	(+)10.58%
Clarity	**73.08%**	*n* = 19(26)	**83.34%**	*n* = 20(24)	(+)10.26%
Acceptability	65.38%	*n* = 17(26)	66.66%	*n* = 16(24)	(+)1.28%
Effectiveness	**73.07%**	*n* = 19(26)	**77.28%**	*n* = 17(22)	(+)4.21%
Feasibility	65.38%	*n* = 17(26)	**86.95%**	*n* = 20(23)	(+)21.57%
Mean	70.76%		80.34%		(+)9.58%
No. dimensions ≥ 70%	3		4		(+)1
Rank order	N/A		N/A		

Suicide attempt items

Item 5b	**"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you attempted to end your own life in some way?"**				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**92.31%**	*n* = 24(26)	**95.84%**	*n* = 23(24)	(+)3.53%
Clarity	**96.16%**	*n* = 25(26)	**87.50%**	*n* = 21(24)	(-)8.66%
Acceptability	69.23%	*n* = 18(26)	**78.26%**	*n* = 18(23)	(+)9.03%
Effectiveness	**92.30%**	*n* = 24(26)	**91.30%**	*n* = 21(23)	(-)1.00%
Feasibility	**76.93%**	*n* = 20(26)	**91.30%**	*n* = 21(23)	(+)14.37%
Mean	85.38%		**88.84%**		(+)3.46%
No. dimensions ≥ 70%	4		**5**		(+)1
Rank order	N/A		1		

Item 5a	**"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you made any suicide attempts?"**				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**96.16%**	*n* = 25(26)	**95.84%**	*n* = 23(24)	(-)0.32%
Clarity	**100.00%**	*n* = 26(26)	**91.66%**	*n* = 22(24)	(-)8.34%
Acceptability	**76.93%**	*n* = 20(26)	**75.00%**	*n* = 18(24)	(-)1.93%
Effectiveness	**96.16%**	*n* = 25(26)	**91.31%**	*n* = 21(23)	(-)4.85%
Feasibility	**80.77%**	*n* = 21(26)	**86.36%**	*n* = 19(22)	(+)5.59%
Mean	**90.00%**		**88.03%**		(-)1.97%
No. dimensions ≥ 70%	**5**		**5**		-
Rank order	N/A		2		

Suicidality history items

Item 6a	**"Prior to your most recent pregnancy, have you experienced suicidal thoughts in the past?"**				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**100.00%**	*n* = 26(26)	**95.83%**	*n* = 23(24)	(-)4.17%
Clarity	**88.46%**	*n* = 23(26)	**95.83%**	*n* = 23(24)	(+)7.37%
Acceptability	**88.46%**	*n* = 23(26)	**91.67%**	*n* = 22(24)	(+)3.21%
Effectiveness	**84.62%**	*n* = 22(26)	**82.61%**	*n* = 19(23)	(-)2.01%

Feasibility	**84.62%**	*n* = 22(26)	**95.66%**	*n* = 22(23)	(+)11.04%
Mean	**89.23%**		**95.76%**		(+)6.53%
No. dimensions ≥ 70%	**5**		**5**		-
Rank order	N/A		1		

Item 6b "Prior to your most recent pregnancy, have you attempted to end your own life in the past?"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	**96.15%**	*n* = 25(26)	**100.00%**	*n* = 24(24)	(+)3.85%
Clarity	**96.15%**	*n* = 25(26)	**95.83%**	*n* = 23(24)	(-)0.32%
Acceptability	**76.93%**	*n* = 20(26)	**91.67%**	*n* = 22(24)	(+)14.74%
Effectiveness	**88.46%**	*n* = 23(26)	**100.00%**	*n* = 24(24)	(+)11.54%
Feasibility	**84.62%**	*n* = 22(26)	**91.30%**	*n* = 21(23)	(+)6.68%
Mean	**88.46%**		**92.32%**		(+)3.86%
No. dimensions ≥ 70%	**5**		**5**		-
Rank order	N/A		2		

Notes: (i) **bold** = dimensional OR overall item-level consensus criteria achieved; (ii) N/A = only items that achieved consensus ≥ 70% for all five dimensions in round-two were ranked (per section); (iii) some panellists did not rate every dimension for every item (e.g., missing data).
Response options: items 1a, 1b, 1c, and 1d = 'never, sometimes, quite often, most of the time', 1e = 'yes/no'; items 2a, 2b, 2c, 2d and 2e = 'never, sometimes, quite often, most of the time', and 2f = 'choose one of the following statements'; all items in sections 3-6 = 'Yes/No'.

Appendix K – Study 4 – Delphi Study: Consensus ratings for item response options

Dimensional and item-level response option consensus scores (%) based on the number of panellists endorsing 'quite' or 'highly'

Suicidal and/or self-harm ideation screening response options					
Item 1b "Never; Sometimes; Quite often; Most of the time"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	88.47%	*n* =23(26)	100.00%	*n* =23(23)	(+)11.53%
Clarity	80.77%	*n* =21(26)	95.66%	*n* =22(23)	(+)14.89%
Acceptability	80.77%	*n* =21(26)	100.00%	*n* =23(23)	(+)19.23%
Mean	83.33%		98.55%		(+)15.22%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		1		
Item 1c "Never; Sometimes; Quite often; Most of the time"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	84.00%	*n* =21(25)	100.00%	*n* =22(22)	(+)16.00%
Clarity	84.00%	*n* =21(25)	86.37%	*n* =19(22)	(+)2.37%
Acceptability	80.00%	*n* =20(25)	100.00%	*n* =22(22)	(+)20.00%
Mean	82.66%		95.45%		(+)12.79%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		2		
Item 1a "Never; Sometimes; Quite often; Most of the time"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	92.31%	*n* =24(26)	95.65%	*n* =22(23)	(+)3.34%
Clarity	80.77%	*n* =21(26)	91.30%	*n* =21(23)	(+)10.53%
Acceptability	88.46%	*n* =23(26)	91.30%	*n* =21(23)	(+)2.84%
Mean	87.18%		92.75%		(+)5.57%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		3		

Item 1d "Never; Sometimes; Quite often; Most of the time"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	88.46%	*n* =23(26)	95.65%	*n* =22(23)	(+)7.19%
Clarity	76.92%	*n* =20(26)	86.95%	*n* =20(23)	(+)10.03%
Acceptability	73.08%	*n* =19(26)	91.30%	*n* =21(23)	(+)18.22%
Mean	79.48%		91.30%		(+)11.82%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		4		
Item 1e "Physically or emotionally hurting yourself in some way? Yes/No; Ending your own life? Yes/No"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	88.46%	*n* =23(26)	95.83%	*n* =23(24)	(+)7.37%
Clarity	88.46%	*n* =23(26)	83.33%	*n* =20(24)	(-)5.13%
Acceptability	76.92%	*n* =20(26)	82.61%	*n* =19(23)	(+)5.69%
Mean	84.61%		87.25%		(+)2.64%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		5		
Suicidal ideation response options					
Item 2c "Never; Sometimes; Quite often; Most of the time"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	88.46%	*n* = 23(26)	100.00%	*n* = 23(23)	(+)11.54%
Clarity	84.62%	*n* = 22(26)	100.00%	*n* = 23(23)	(+)15.38%
Acceptability	84.62%	*n* = 22(26)	100.00%	*n* = 23(23)	(+)15.38%
Mean	85.90%		100.00%		(+)14.10%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		1		
Item 2d "Never; Sometimes; Quite often; Most of the time"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)

Relevance	96.15%	*n* = 25(26)	100.00%	*n* = 23(23)	(+)3.8%
Clarity	88.46%	*n* = 23(26)	100.00%	*n* = 23(23)	(+)11.54%
Acceptability	88.46%	*n* = 23(26)	100.00%	*n* = 23(23)	(+)11.54%
Mean	91.02%		100.00%		(+)8.98%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		2		
Item 2e "Never; Sometimes; Quite often; Most of the time"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	92.31%	*n* = 24(26)	100.00%	*n* = 23(23)	(+)7.69%
Clarity	84.62%	*n* = 22(26)	100.00%	*n* = 23(23)	(+)15.38%
Acceptability	84.62%	*n* = 22(26)	100.00%	*n* = 23(23)	(+)15.38%
Mean	87.18%		100.00%		(+)12.82%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		3		
Item 2a "Never; Sometimes; Quite often; Most of the time"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	84.62%	*n* = 22(26)	91.67%	*n* = 22(24)	(+)7.05%
Clarity	76.92%	*n* = 20(26)	91.30%	*n* = 21(23)	(+)14.38%
Acceptability	84.62%	*n* = 22(26)	95.65%	*n* = 22(23)	(+)11.03%
Mean	82.05%		92.87%		(+)10.82%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		4		
Item 2b "Never; Sometimes; Quite often; Most of the time"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	80.77%	*n* = 21(26)	95.65%	*n* = 22(23)	(+)14.88%
Clarity	73.08%	*n* = 19(26)	86.96%	*n* = 20(23)	(+)13.88%
Acceptability	76.00%	*n* = 19(25)	95.65%	*n* = 22(23)	(+)19.65%
Mean	76.61%		92.75%		(+)16.14%

No. dimensions ≥ 70%	3		3		-
Rank order	N/A		5		

Item 2f	"I haven't had thoughts about ending my own life; I have had thoughts about ending my own life, but I would not carry them out; I have had thoughts about ending my own life"				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	73.08%	*n* = 19(26)	86.95%	*n* = 20(23)	(+)13.87%
Clarity	53.84%	*n* = 14(26)	60.87%	*n* = 14(23)	(+)7.03%
Acceptability	57.70%	*n* = 15(26)	73.91%	*n* = 17(23)	(+)16.21%
Mean	61.54%		73.91%		(+)12.37%
No. dimensions ≥ 70%	1		2		(+)1
Rank order	N/A		N/A		

Suicide plan response options

Item 3c	"Yes/No"				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	92.00%	*n* = 23(25)	100.00%	*n* = 23(23)	(+)8.00%
Clarity	92.00%	*n* = 23(25)	95.65%	*n* = 22(23)	(+)3.65%
Acceptability	87.50%	*n* = 21(24)	100.00%	*n* = 23(23)	(+)12.50%
Mean	90.50%		98.55%		(+)8.05%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		1		

Item 3b	"Yes/No"				
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	100.00%	*n* = 26(26)	95.65%	*n* = 22(23)	(-)4.35%
Clarity	92.30%	*n* = 24(26)	91.30%	*n* = 21(23)	(-)1.00%
Acceptability	88.00%	*n* = 22(25)	91.30%	*n* = 21(23)	(+)3.30%
Mean	93.43%		92.75%		(-)0.68%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		2		

Item 3a "Yes/No"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	92.00%	*n* = 23(25)	95.65%	*n* = 22(23)	(+)3.65%
Clarity	96.00%	*n* = 24(25)	91.30%	*n* = 21(23)	(-)4.70%
Acceptability	84.00%	*n* = 21(25)	86.95%	*n* = 20(23)	(+)2.95%
Mean	90.66%		91.30%		(+)0.64%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		3		

Suicidal behaviour response options

Item 4d "Yes/No"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	96.15%	*n* = 25(26)	100.00%	*n* = 23(23)	(+)3.85%
Clarity	92.31%	*n* = 24(26)	100.00%	*n* = 23(23)	(+)7.69%
Acceptability	96.00%	*n* = 24(25)	100.00%	*n* = 23(23)	(+)4.00%
Mean	94.82%		100.00%		(+)5.18%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		1		

Item 4b "Yes/No"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	100.00%	*n* = 26(26)	100.00%	*n* = 23(23)	N/A
Clarity	100.00%	*n* = 26(26)	95.65%	*n* = 22(23)	(-)4.35%
Acceptability	92.31%	*n* = 24(26)	100.00%	*n* = 23(23)	(+)7.69%
Mean	97.43%		98.55%		(+)1.12%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		2		

Item 4c "Yes/No"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)

Relevance	88.46%	*n* = 23(26)	95.65%	*n* = 22(23)	(+)7.19%
Clarity	88.46%	*n* = 23(26)	95.65%	*n* = 22(23)	(+)7.19%
Acceptability	88.46%	*n* = 23(26)	95.65%	*n* = 22(23)	(+)7.19%
Mean	88.46%		95.65%		(+)7.19%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		3		
Item 4a "Yes/No"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	92.31%	*n* = 24(26)	95.65%	*n* = 22(23)	(+)3.34%
Clarity	88.46%	*n* = 23(26)	95.65%	*n* = 22(23)	(+)7.19%
Acceptability	88.00%	*n* = 22(25)	95.65%	*n* = 22(23)	(+)7.65%
Mean	89.59%		95.65%		(+)6.06%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		3		
Suicide attempt response options					
Item 5a "Yes/No"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	100.00%	*n* = 26(26)	100.00%	*n* = 23(23)	-
Clarity	92.31%	*n* = 24(26)	100.00%	*n* = 23(23)	(+)7.69%
Acceptability	88.46%	*n* = 23(26)	100.00%	*n* = 22(22)	(+)11.54%
Mean	93.59%		100.00%		(+)6.41%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		1		
Item 5b "Yes/No"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	96.15%	*n* = 25(26)	100.00%	*n* = 23(23)	(+)3.85%
Clarity	88.46%	*n* = 23(26)	100.00%	*n* = 23(23)	(+)11.54%

Acceptability	92.31%	*n* = 24(26)	100.00%	*n* = 23(23)	(+)7.69%
Mean	92.30%		100.00%		(+)7.70%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		1		
			Suicidality history response options		
Item 6a "Yes/No"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	92.31%	*n* = 24(26)	100.00%	*n* = 23(23)	(+)7.69%
Clarity	92.31%	*n* = 24(26)	100.00%	*n* = 23(23)	(+)7.69%
Acceptability	92.00%	*n* = 23(25)	100.00%	*n* = 23(23)	(+)8.00%
Mean	92.20%		100.00%		(+)7.80%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		1		
Item 6b "Yes/No"					
Dimension	Round 1 (%)	*N* = 26	Round 2 (%)	*N* = 24	Difference (+/- between rounds)
Relevance	100.00%	*n* = 26(26)	100.00%	*n* = 23(23)	-
Clarity	100.00%	*n* = 26(26)	100.00%	*n* = 23(23)	-
Acceptability	96.15%	*n* = 25(26)	100.00%	*n* = 23(23)	(+)3.85%
Mean	98.71%		100.00%		(+)1.29%
No. dimensions ≥ 70%	3		3		-
Rank order	N/A		1		

Notes: (i) **bold** = dimensional OR overall item-level consensus criteria achieved; (ii) N/A = only items that achieved consensus ≥ 70% for all five dimensions in round-two were ranked (per section); (iii) some panellists did not rate every dimension for every item (e.g., missing data).

Appendix L – Study 4 – Delphi Study: Qualitative feedback results for items

Analysis of qualitative data: supportive and unsupportive statements per item and key themes identified

Suicidal and/or self-harm ideation screening items			
Item 1a	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], has the thought of harming yourself occurred to you?" NOTE: This includes thoughts about causing physical or emotional harm to yourself, and/or thoughts about ending your own life.		
Response options	"Never; Sometimes; Quite often; Most of the time"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
18	1	18	4
Key themes identified	Example comments		
Vagueness/lack of clarity	"*Harming yourself is too vague and the spectrum of emotional harm to yourself - ending your own life is too broad."*		
Stigma and fear	*"Due to the stigma around suicide or self-harm, it's always a difficult question to be asked, especially in the perinatal context when, socially speaking, you're supposed to feel gratitude and overall happiness. Culturally, there might also be some people who react negatively to the question."*		
Issues with response options	*"How do you distinguish between 'sometimes' and 'quite often'? Also, 'most of the time' might be better as 'almost always."*		
Concept of 'emotional harm'	*"Will women know what is meant by 'causing emotional harm to themselves' - physical harm is easier to answer, whereas emotional harm to self is more abstract perhaps."*		
Item 1b	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about hurting yourself in some way?" NOTE: This includes thoughts about causing physical or emotional hurt to yourself, and/or thoughts about ending your own life.		
Response options	"Never; Sometimes; Quite often; Most of the time"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
17	4	14	3
Key themes identified	Example comments		
'Harm' versus 'hurt'	*"I think the term harm is more acceptable than hurt."*		
Question directness	*"Treat self-harm and suicide separately – be direct when asking about suicide and plans for suicide."*		

Comparison to item 1a	*"I prefer the phrasing of this question (i.e., without occurred)."*		
Issues with response options	*"Quite often' and 'most of the time' may mean the same thing to some people."*		
Concept of 'emotional harm'	*"I think people will be unsure of what is meant by causing 'emotional harm' to themselves."*		
Item 1c	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that your baby, friends or family would be better off without you?"		
Response options	"Never; Sometimes; Quite often; Most of the time"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
16	5	9	3
Key themes identified	Example comments		
Signals red flag	*"Red flag by not feeling like a good enough mother - well aligned with MBRRACE-UK."*		
Lack of specificity	*"What does 'better off without you' mean - leaving their partner, going on holiday, moving away? It isn't clear that this means to end their life."*		
Issues with response options	*"Response options have the same problems as with the previous questions."*		
Item 1d	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about hurting yourself in some way or of not wanting to be alive?"		
Response options	"Never; Sometimes; Quite often; Most of the time"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
18	4	16	1
Key themes identified	Example comments		
Issue of double premise	*"There are two parts to this question: 'hurting yourself in some way' and 'not wanting to be alive'. The woman could have felt one but not the other. So, it is hard to answer. Avoid two premise questions - it's confusing to mix different things in the same question."*		
Question directness	*"This is very clear, very direct, and leaves no room for interpretation."*		
Issues with response options	*"Response options have the same problems as with the previous questions."*		
Item 1e	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts of":		

Response options	Physically or emotionally hurting yourself in some way? (Yes/No); Ending your life? (Yes/No)"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
21	8	20	-
Key themes identified	Example comments		
Binary responses	*"I like the response options of a simple 'yes' or 'no' because women don't need to consider the frequency of these thoughts, so it may be easier to consider their answer. If the answer is 'yes' then this can lead on to further, more open-ended discussion"; "A 'yes or no' answer is less informative than a scale of frequency. It's also easier to deny something that might be happening."*		
Issue of double premise	*"Physically or emotionally hurting yourself in some way? Ending your own life? - again, these are asking different things and need to be separate items."*		
Concept of 'emotional harm'	*"I'm not quite sure about how to emotionally hurt yourself and whether this is going to cause confusion."*		
Question directness	*"I like the directness of this question and that women either answer yes or no. This allows the professional asking the question to then ask deeper questions."*		
Suicidal ideation items			
Item 2a	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that you don't want to be alive?"		
Response options	"Never; Sometimes; Quite often; Most of the time"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
9	2	6	1
Key themes identified	Example comments		
Passive versus active ideation	*"Not wanting to be alive may be a different experience from having suicidal ideation. It may be interpreted passively - i.e., the woman may have nihilistic thoughts but not actively plan/think about taking her own life."*		
Issues with response options	*"A 'once or twice' answer would be helpful here."*		
Item 2b	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you wished you could go to sleep and not wake up?"		
Response options	"Never; Sometimes; Quite often; Most of the time"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)

16	-	15	1
Key themes identified	Example comments		
Vagueness/lack of clarity	*"This phrasing lacks clarity - better to be direct, and this would not translate well."*		
Sleep deprivation	*"This might get confounded with a wish for sleep in the perinatal period, as in, the baby is not allowing the mother to sleep and she's desperate for sleep… many exhausted perinatal women might feel this i.e., want to sleep, therefore I think more nuance is needed here."*		
Lack of specificity	*"Many depressed clients (and others) may endorse this but have no intention or plan to actively kill themselves"; "This is a question that will screen for depression and not specifically about suicide."*		
Item 2c	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about suicide?"		
Response options	"Never; Sometimes; Quite often; Most of the time"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
13	6	9	1
Key themes identified	Example comments		
Question directness	*"This is direct and to the point - leaves no room for misinterpretation."*		
Implications of the word suicide	*"Suicide somehow has a judgmental vein that runs through it. For the individual considering suicide, I could see that they might respond 'yes' to killing themselves but 'no' to suicide"; "A small proportion of people may need the term suicide explaining to them."*		
Barriers for healthcare practitioners and perinatal women	*"Staff are scared to ask about suicide. Would need training"; "It might have a great emotional impact to be asked something as explicit as this."*		
Issues with response options	**"***Direct question which requires a direct answer - just go with 'yes or no."*		
Item 2d	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts about ending your own life?"		
Response options	"Never; Sometimes; Quite often; Most of the time"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
9	7	4	-
Key theme identified	Example comments		

Question wording	*"The phraseology of this question is in my opinion perhaps the best"; "It's more empathic than the previous one, it's a softer expression"; "I prefer this wording to the others."*		
2e	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you had thoughts that you don't want to be alive, or of ending your own life?"		
Response options	"Never; Sometimes; Quite often; Most of the time"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
13	4	8	1
Key theme identified	Example comments		
Utility and issues of double premise	*"I think the addition of 'you don't want to be alive' will be helpful to identify women at risk"; "Combines a vague question with a very specific question - for those people who would passively not like to be alive, it lumps them in with people who are actively suicidal… inadvertently lumping a less severe presentation with a more severe presentation runs the risk of women not responding to this question and increasing their fears about their speaking to people about their mental health problems."*		
2f	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate]:		
Response options	I haven't had thoughts about ending my own life; I have had thoughts about ending my own life, but I would not carry them out; I have had thoughts about ending my own life."		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
16	2	14	3
Key theme identified	Example comments		
Implications of response style	*"The third response ('I have had thoughts about ending my own life') requires 'and considered carrying them out' otherwise there will be overlap with the second option… however, I wonder also whether there are implications for people feeling reluctant to note that they would intend to carry out their thoughts (albeit implied here) for fear of repercussions"; "I think the response options are unclear and ambiguous here - if somebody answers, 'I have had thoughts about ending my own life' and not 'I have had thoughts about ending my own life, but I would not carry them out', does this imply that they would carry out their thoughts? I think 'I have had thoughts about ending my own life' needs some more clarity to distinguish it from the similar option given and to help identify suicidal ideation"; "Having forced responses feels inappropriate for these questions as it feels like it could prevent further discussion and feels more tick-box'y than a response on frequency."*		
Suicide plan items			
Item 3a	"Have you made plans to end your own life?"		
Response options	"Yes/No"		

Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
13	1	6	6
Key themes identified	Example comments		
Context of question	*"Relevant to ask if they have suicidal thoughts, but again it is the way this question is asked - what relationship does that person have with the person asking, do they feel safe with them, do they trust them and feel able to open up."*		
Timeframe	*"The one thing that gets me about this is the timing of it. Someone could have, once in their life, sometime in the past, made plans to kill themselves. But currently they may not be considering it. Or, they might be considering it now. And that's key… It's about asking if there's ever been a plan, and if they've recently considered it - or with a follow-up question - what might trigger the plan (we know from mothers that some also have these trigger points)."*		
Define 'made plans'	*"There is no definition of plans here and that could confuse matters - written, mental, physical (i.e., bought supplies) - this needs better definition."*		
Item 3b	"Have you had thoughts about how you might end your own life?"		
Response options	"Yes/No"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
13	3	5	5
Key themes identified	Example comments		
Comparison to item 3a	*"This is preferable to 'have you made plans'[Q3a], there is a better chance you will pick up people who are experiencing suicidal thoughts but may not yet have made distinct plans for this."*		
Binary responses	*"The tick box responses of 'Yes or No' will not give the details about the plan, or room to outline what these plans are."*		
Item 3c	"Have you told anyone that you have made plans to end your own life?"		
Response options	"Yes/No"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
11	4	3	5
Key theme identified	Example comments		
Support networks	*"Good for the purpose of identifying possible supports, not to assess intent and risk"; "Good to know if they're talking to friends or family. What support they have. Reaction to telling them."*		

Suicidal behaviour items

Item 4a	"Have you made preparations to end your own life?"		
Response options	"Yes/No"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
10	3	6	2
Key themes identified	Example comments		
Define 'preparations'	*"Not sure I like how this is phrased. Do they have a plan, what does this look like/can they share their plan, do they have access to means to carry out their plan?"; "More clarity about what 'preparations' mean would make this clearer."*		
Impulsivity	*"Suicides are often done in what looks like an impulsive moment"; "This doesn't account for impulsivity."*		
Item 4b	"Have you taken steps to end your own life (for example, obtaining pills or equipment)?"		
Response options	"Yes/No"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
10	3	6	1
Key theme identified	Example comments		
Implications of 'taken steps'	*"Taken steps may indicate they have acted or started to act on their plan, i.e., already taken medication"; "Have you taken steps to end your own life sounds to me like a suicide attempt."*		
Item 4c	"Have you made arrangements for ending your own life (for example, getting your financial affairs in order or writing a note to loved ones)?"		
Response options	"Yes/No"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
9	1	5	3
Key theme identified	Example comments		
Implications of 'arrangements'	*"This makes it sound like suicide is something to be accomplished. The wording is not appropriate and should be changed to prevent promotion of ending one's own life as an acceptable and sanctioned outcome"; "Arrangements' again seems wrong to me, it sounds like you're arranging to take your life and not get affairs in order. Could be easily misinterpreted."*		
Item 4d	"Do you feel there is an immediate risk that you will attempt to end your own life?"		
Response options	"Yes/No"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)

9	2	4	4
Key theme identified	Example comments		
Implications of 'immediate risk'	*"I think it might be difficult for women to quantify 'immediate risk'. Asking this question in a more direct manner might be more effective e.g., giving a timescale"; "It may be more effective in risk assessment to ask when they intend to carry out their plan."*		
Suicide attempt items			
Item 5a	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you made any suicide attempts?"		
Response options	"Yes/No"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
5	-	4	1
Key themes identified	Example comments		
Question wording	*"Have you attempted to end your life might be preferable here and more accessible for people."*		
Binary responses	*"Yes/no doesn't give room to expand and share the details of previous attempts. It's important to know and understand what this looks like."*		
Item 5b	"Since we last met/since the start of your pregnancy/since the birth of your baby [delete as appropriate], have you attempted to end your own life in some way?"		
Response options	"Yes/No"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
8	4	6	-
Key themes identified	Example comments		
Question wording	**"***Unsure why 'in some way' is included here…'in some way' is ambiguous."*		
Comparison to item 5a	*"I prefer this wording to the previous question as I think its meaning is clearer."*		
Binary responses	*"Yes/no doesn't give room for details to understand what it looks like for them."*		
Suicidality history items			
Item 6a	"Prior to your most recent pregnancy, have you experienced suicidal thoughts in the past?"		
Response options	"Yes/No"		

Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
8	3	5	1
Key themes identified	Example comments		
Question wording	*"Perhaps the wording could be strengthened here - the 'prior to your current pregnancy', coupled with 'in the past' at the end of the question seems a bit clunky."*		
Binary responses	*"Yes/no doesn't give room to expand so we understand more about what this has looked like in the past."*		
Item 6b	"Prior to your most recent pregnancy, have you attempted to end your own life in the past?"		
Response options	"Yes/No"		
Number of panellists *(N)*	Supportive statements (*n*)	Unsupportive statements (*n*)	N/A statements (*n*)
7	4	3	-
Key themes identified	Example comments		
Question wording	*"The wording makes it confusing, so there's a risk of misinterpretation. In my experience, less is more."*		
Historical suicidality	*"This is good as it's important to note what happened, and what was helpful."*		

Notes: (i) qualitative analysis was only conducted on the data from round-one, no new themes appeared in round-two; (ii) 'supportive statements' = statements that reflected endorsement for the item, 'unsupportive statements' = statements that were critical of the item, and/or suggested changes to the item content, 'N/A' = statements that concerned the broader topic area, and not the item specifically; (iii) of the panellists who provided qualitative feedback, some made more than one unique statement per item which is reflected in the (*n*).

Appendix M – Study 4 – Delphi Study: Qualitative results for targeted questions

Qualitative feedback from general questions about identifying PMH problems and suicidality

General item 1	"Do you think questions to identify suicidal ideation (and/or suicidal behaviours) should be asked to all perinatal women? And if so, when should these be asked (e.g., in pregnancy, after birth, both or at all contacts)?"
Number of panellists *N* (%)	Responses (who?)
20 (77%)	All perinatal women should be asked about suicidal ideation.
4 (15%)	Only those at high risk, those indicating mental distress or those who have positively endorsed the Whooley questions should be asked.
2 (8%)	Did not specifically answer this question.
Number of panellists *N* (%)	Responses (when?)
9 (34%)	Did not comment on timeframes.
6 (23%)	A screening question for suicidal ideation should be asked at two time-points (e.g., once during pregnancy, once postnatally).
5 (19%)	A screening question for suicidal ideation should be asked at all contacts.
4 (16%)	A screening question for suicidal ideation should be asked at three time-points (e.g., once during pregnancy, once shortly after birth once postnatally).
2 (8%)	A screening question for suicidal ideation should only be asked at booking - unless a positive endorsement is identified.
Key points raised	Example comments
The importance of context, framing, rapport building, trust, and continuity.	*"I think it would be a good opportunity to ask all women at booking with the correct framing before asking the questions (e.g., why we ask these questions, the importance of monitoring mental health, that support is available etc.) … I do think it depends how these questions are framed as to how acceptable women find them"; "I absolutely think all birthing people should be asked. I do think though that a trusted relationship helps (continuity of care!) and the person asking must have the training to deal with the answers and resources to help. I don't think multiple random people should be asking at every point of contact".*

General item 2	"How do you think questions about suicide should be introduced (e.g., face-to-face conversation, on paper/on an iPad, or both)?"
Number of panellists *N* (%)	Responses
14 (54%)	Screening question(s) for perinatal suicidality should be introduced face-to-face.
11 (42%)	Screening question(s) for perinatal suicidality could be asked either face-to-face or on an iPad/paper questionnaire.
1 (4%)	Screening question(s) for perinatal suicidality should be asked via an iPad/paper questionnaire prior to a prenatal/postnatal care visit.

Key points raised	Example comments
Face-to-face conversations	**"***Face to face in all instances. Especially questions about suicidal behaviour, where an immediate response or action might be needed to ensure safety of the patient or baby"; "Ideally, a face-to-face conversation with somebody that they feel able and comfortable to disclose to. Some people are extremely concerned that if they divulge mental health difficulties then there will be implications for their child (e.g., that social services will be involved). It's really important to provide people who are experiencing suicidal ideation (or have moved to begin planning a suicide attempt) that they are reassured - and feel reassured - to talk to someone about this".*
Face-to-face, and/or via iPad/paper questionnaire	*"The concern is whether someone who was suicidal would be less likely to report on paper or an iPad (or maybe they would be more likely, many people report that they like the anonymity of these methods and are more likely to be honest)"; "This is very context and person specific as I think different women across different cultures will have different preferences. Ideal might be paper/iPad (although language and literacy are very important considerations for this), followed by a face-to-face conversation after the healthcare professional has reviewed the scores"; "I think is down to clinical judgement as to what would be the most appropriate - both options would be good to have".*
General item 3	"Do you think perinatal women are given enough information about changes to mental health (and suicidality) during pregnancy and after birth, and/or what services are available to support them?"
Number of panellists *N* (%)	Responses
16 (64%)	Perinatal women are not given enough information about possible changes to mental health (and suicidality) during pregnancy and after birth, and/or what services are available to support them with mental health issues.
9 (36%)	Some information about mental health/suicidality is provided to perinatal women, but this is highly variable across maternity services and trusts.
Key points raised	Example comments
Importance of information	*"Research shows that mental illness is stigmatized in peripartum, so women are reluctant to report symptoms. Providers need to take a more active role in educating and assessing"; "I think postnatal depression is the term that all women hear but this can minimise the experiences of women who have other perinatal mental health problems like anxiety and psychosis".*
How information should be provided	*"They should be given more information even simply in the form of information leaflets as it may not always feasible to cover in routine antenatal and postnatal appointments".*
Additional overall comments	
Number of panellists	*N* = 16
Key points raised	Example comments
Mental health and suicidality training and	*"most women's health care providers do not feel comfortable navigating conversations surrounding mental health due to lack of training"; "There is often resistance from care workers to asking about suicidality (for fear of upsetting women)"; "There needs to be adequate supervision and training for practitioners and there needs to be good integration of support services to ensure all*

support for those working in maternity care	*practitioners have a good understanding of referral pathways to perinatal mental health support"; "People asking [these questions] need to have education and be able to deal with answers if a person is suicidal and be able to connect people in distress with appropriate services."*
Stigma and cultural differences	*"I work in LMIC settings where suicide remains highly stigmatised"; "I think in my country there are cultural factors to consider… admitting to mental health concerns here has significant cultural aspects", "stigma is huge. We need better support and to normalise that it is really hard being pregnant and becoming a parent."*

Appendix N – List of conference presentations

1. Dudeney, E., Coates, R., Ayers, S., & McCabe, R. (2023). Measures of suicidality in perinatal women: A systematic review. Oral presentation at the *International Network of Early Career Researchers in Suicide and Self-harm Conference*, UK, November 2021.

2. Dudeney, E., Coates, R., Ayers, S., & McCabe, R. (2023). Measures of suicidality in perinatal women: A systematic review. Oral presentation at the *School of Health and Psychological Sciences Doctoral Research Conference, City, University of London*, UK, November 2021.

3. Dudeney, E., Coates, R., Ayers, S., & McCabe, R. (2023). Measures of suicidality in perinatal women: A systematic review. Poster presentation at the *Biennial Conference of the International Marce Society*, UK, September 2022.

4. Dudeney, E., Coates, R., Ayers, S., & McCabe, R. (2023). Measures of suicidality in perinatal women: A systematic review. Oral presentation at the *Society for Reproductive and Infant Psychology (SRIP) Annual Conference*, UK, September 2022.

5. Dudeney, E., Meades, R., Ayers, S., & McCabe, R. (2024). Perinatal women's views and experiences of discussing suicide in maternity care settings: A qualitative study. Oral presentation at the *Suicide and Self-harm Early and Mid-Career Researchers Conference*, UK, June 2023.

6. Dudeney, E., Meades, R., Ayers, S., & McCabe, R. (2024). Perinatal women's views and experiences of discussing suicide in maternity care settings: A qualitative study. Oral presentation at the *School of Health and Psychological Sciences Doctoral Research Conference, City, University of London*, UK, June 2023

7. Dudeney, E., Meades, R., Ayers, S., & McCabe, R. (2024). Perinatal women's views and experiences of discussing suicide in maternity care settings: A qualitative study.

Oral presentation as part of a symposium at the *Society for Reproductive and Infant Psychology (SRIP) Annual Conference*, Switzerland, September 2023.

8. Dudeney, E., Coates, R., Ayers, S., & McCabe, R. (2024). Acceptability and content validity of suicidality screening items: A qualitative study with perinatal women. Oral presentation at the *UK and Ireland Marce Society Conference*, UK, January 2024.

9. Dudeney, E., Meades, R., Ayers, S., & McCabe, R. (2025). Attitudes, experiences, and implications of asking about suicide during the perinatal period: A qualitative study with maternity healthcare practitioners. Oral presentation at the *School of Health and Psychological Sciences Doctoral Research Conference, City, University of London*, UK, July 2024.

10. Dudeney, E., Meades, R., Ayers, S., & McCabe, R. (2025). Attitudes, experiences, and implications of asking about suicide during the perinatal period: A qualitative study with maternity healthcare practitioners. Oral presentation as part of a symposium at the *Biennial Conference of the International Marce Society*, Spain, September 2024.

11. Dudeney, E. Overview of my perinatal suicide research. Oral presentation as an invited guest speaker at the *Perinatal Suicide Conference, University of Jaen*, Spain, October 2024.

12. Dudeney, E., Meades, R., Ayers, S., & McCabe, R. (2025). Attitudes, experiences, and implications of asking about suicide during the perinatal period: A qualitative study with maternity healthcare practitioners. Oral presentation at the *UK and Ireland Marce Society Conference*, UK, January 2025.