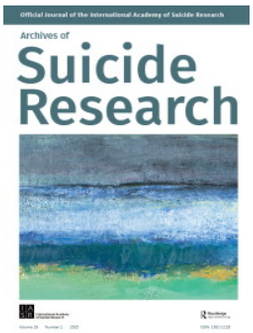

Archives of Suicide Research

ISSN: 1381-1118 (Print) 1543-6136 (Online) Journal homepage: www.tandfonline.com/journals/usui20

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To cite this article: Elizabeth Dudeney, Rose Meades, Susan Ayers & Rose McCabe (29 May 2025): Questionnaire Items to Identify Suicidality in Perinatal Women: A Delphi Study, Archives of Suicide Research, DOI: 10.1080/13811118.2025.2509645

To link to this article: https://doi.org/10.1080/13811118.2025.2509645

Published online: 29 May 2025.

ARCHIVES OF SUICIDE RESEARCH
https://doi.org/10.1080/13811118.2025.2509645

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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 panelists 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 $\geq$70% panelists 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 $\geq$70% for all five dimensions in round-one and a further four reached consensus in round-two, totaling 14 items. Twenty-one response scales/items reached consensus $\geq$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.

HIGHLIGHTS

- Content validity, acceptability and clinical utility of perinatal suicidality items.
- Fourteen suicide-related items reached consensus using a Delphi method approach.
- Findings can inform screening item choices for identifying perinatal suicidality.

KEYWORDS

Content validity; Delphi methods; perinatal; pregnancy; screening; suicide

INTRODUCTION

Perinatal mental health (PMH) problems affect one in four women[1] during pregnancy and/or after birth, representing a global public health concern (GOV UK, 2025; 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 behaviors 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 behaviors if there is a relevant context (e.g., history of suicidal and/or self-harming ideation or behaviors, 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 behaviors 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., 2022; 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

[1]The authors recognise that not all birthing people identify as being a "woman" or "mother" or "female" (e.g.,). Although these terms have been used throughout this paper, we aim to include any birthing person.

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, Coates, et al., 2024). 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 behaviors. 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., Littlewood et al., 2018; Meades, Moran, et al., 2024; Meades, Sinesi, et al., 2024; Yapp et al., 2019), less is known about measures for identifying perinatal suicidality. Dudeney, Coates, et al. (2024) 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 toward 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, 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.

METHODS

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 ('panelists'); (ii) iterative data collection ('rounds'); (iii) controlled feedback to panelists 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 1 for a flow-chart of the Delphi process applied to this study.

Participants and Recruitment

Factors that influence the number of panelists 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., 2025; 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 panelists in round-one, and 24 in round-two (30 unique participants in total).

Panelists 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 organizations. 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 panelists.

Item Generation

This study used a "reactive" Delphi technique (e.g., Bull et al., 2022) whereby panelists 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);

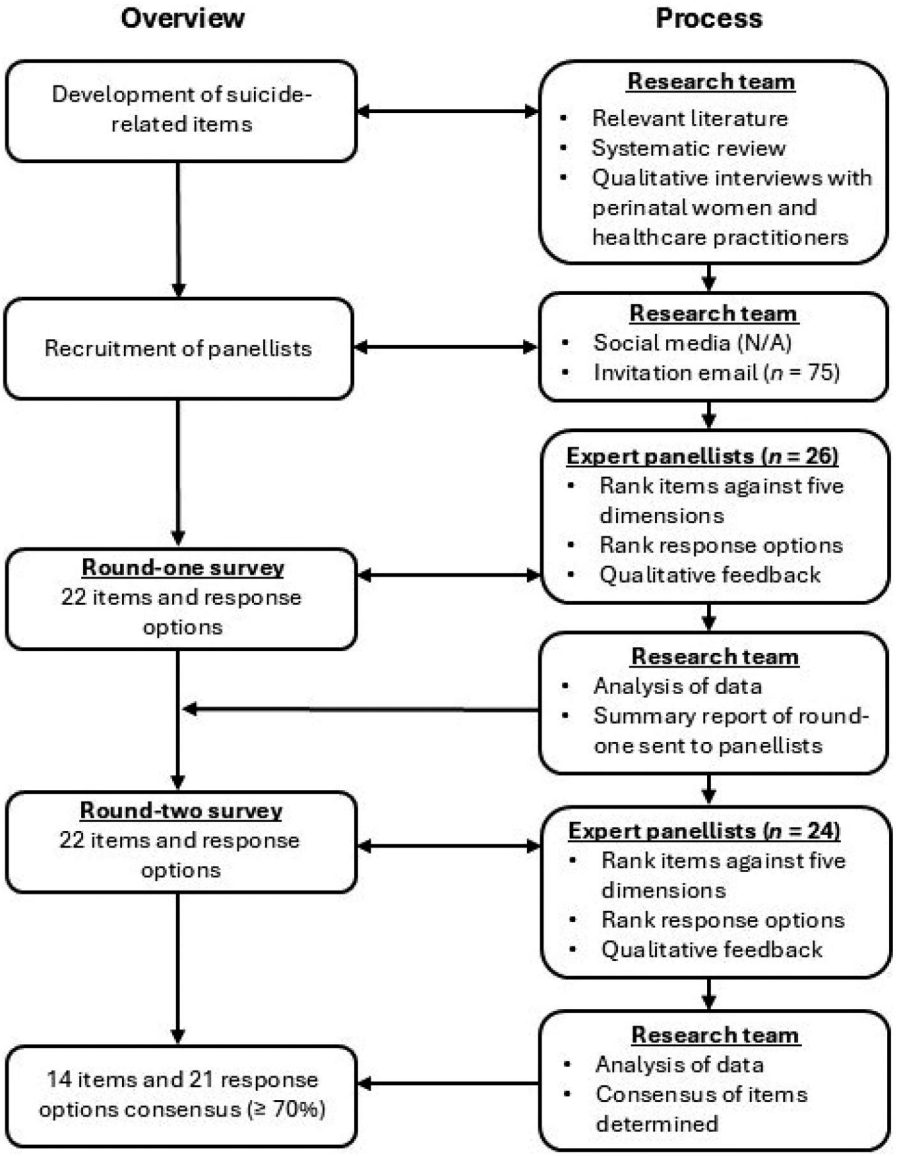

FIGURE 1. Flowchart of Delphi process as applied to this study.

(ii) in-depth qualitative interviews with perinatal women which explored the acceptability of suicide-related screening items (Dudeney, Coates, et al., 2024); (iii) in-depth qualitative interviews with perinatal women to explore their views and experiences of discussing suicide in maternity care settings (Dudeney, Meades, et al., 2024); and (iv) in-depth qualitative interviews with maternity healthcare practitioners to explore their attitudes toward 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 1 for a descriptive summary of items and response options.

TABLE 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]

(*continued*)

TABLE 1. Continued.

Item number	Item content	Item origin (e.g., adapted from an existing item or newly developed item)	Response options* and scoring
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]

*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).

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 before 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 behaviors (four items); suicide attempts (two items); and suicidality history (two items). Panelists 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). Panelists 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). Panelists 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).

Data from round-one were collated and panelists were sent a detailed summary report which included both the overall anonymized 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. Panelists 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. Panelists who only took part in round-two ($n = 4$) were also sent a round-one summary report before 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).

Data Analysis

Quantitative data were analyzed in Microsoft Excel. As aforementioned, each suicide-related item was rated against five dimensions. At the dimensional-level, consensus was determined as ≥70% panelists endorsing "quite" or "highly" for any dimension. This consensus cutoff is in line with previous research (Beach et al., 2025; 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 panelists 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 panelist 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 analyzed 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.

RESULTS

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, totaling 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 2.

Quantitative Results

Dimensional and overall item-level consensus ratings from both rounds are displayed in Table 3 (and Supplementary Material 1). 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, panelists re-rated the 22 items in

TABLE 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.

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, totaling 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 behaviors); "Have you attempted to end your own life in some way?" (item-5b, suicide attempts); and "Before your most recent pregnancy, have you experienced suicidal thoughts in the past?" (item-6a, suicidality history).

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/no" (see Supplementary Material 2 for the response choice consensus ratings).

TABLE 3. Dimensional and item-level consensus scores (%) based on the number of panelists endorsing "quite" or "highly."

	Round 1 Dimension consensus (%) and mean (%)						Round 2 Dimension consensus (%) and mean (%)					
Item	Relevance	Clarity	Accept	Effect	Feasibility	*M*	Relevance	Clarity	Accept	Effect	Feasibility	*M*
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?"	**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 thoughts that your baby, friends or family would be better off without you?"	**88.62**%	**73.07**%	**73.07**%	65.38%	**88.46**%	76.92%	**91.67**%	65.21%	**78.26**%	69.56%	**82.61**%	77.46%
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%

(*continued*)

TABLE 3. Continued.

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*
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?"	**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 thoughts that you don't want to be alive, or of ending your own life?"	**100.00**%	**80.77**%	**80.77**%	**84.62**%	**76.92**%	**84.61**%	**95.84**%	**79.16**%	**79.16**%	**82.61**%	**86.96**%	**84.74**%
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%

(*continued*)

TABLE 3. Continued.

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*
Suicide plan items												
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 behavior items												
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 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%**

(*continued*)

TABLE 3. Continued.

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*
Suicidality history items												
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 panelists 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/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."

Qualitative Results

Analysis of qualitative feedback indicated that panelists reported more unsupportive statements than supportive statements for most items. Many statements were suggestions for modifications (see Supplementary Material 3 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 Supplementary Material 4. 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 panelists 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 before 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.

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, behaviors, 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.

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). Panelists 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, Coates, et al., 2024; Dudeney et al., 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, Moran, et al., 2024; 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, Coates, et al., 2024; Dudeney et al., 2025).

A further nine items reached consensus from the sections related to suicide plans (items 3a, 3b), suicidal behaviors (items 4a, 4b, 4d), suicide attempts (items 5a, 5b), and suicidality history (items 6a, 6b). Overall, panelists 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, panelists 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.

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 panelists 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, Coates, et al. (2024) 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). Recognizing this distinction is particularly important in clinical settings where the treatment pathways for suicidal or self-harming thoughts/behaviors differ significantly.

Response Options

One item response scale (item-2f) did not reach a consensus. Panelists 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/no."

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, Coates, et al., 2024; Dudeney, Meades, et al., 2024), and 77% of panelists 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, Coates, et al., 2024; Dudeney, Meades, et al., 2024; Dudeney et al., 2025; Milgrom & Gemmill, 2015; Solutions for Public Health, 2019). It is important that continued prioritization 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.

Strengths, Limitations, and Future Research

Consensus-based methods provide a systematic means of synthesizing 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 panelists 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 panelists were White and/or from the UK which is a limitation. Future research should seek to include the views from a broader range of panelists as this may provide further valuable insights which may not have been captured in this study. Likewise, whilst the threshold of $\geq$70% has been used in previous research (e.g., Beach et al., 2025; 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. Lastly, further psychometric work is now needed to evaluate and validate these items, which is an essential stage in the development of measurement tools.

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 behaviors. 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.

ACKNOWLEDGMENTS

We would like to thank everyone who participated in this study for their time and for their open and honest views on a sensitive topic.

ETHICAL APPROVAL

This research was approved by the School of Health and Psychological Sciences Research and Ethics Committee (SHPS REC) at City, University of London before recruitment and data collection (reference number: ETH2223-0074). All participants gave their informed consent to take part.

AUTHORS CONTRIBUTIONS

ED was responsible for the conceptualization of the study. ED developed the initial list of items, which was reviewed and refined with RM. ED led the ethics application submission with input from RM, SA, and RMc. ED recruited and communicated with all participants, managed each survey round, analyzed the data, and produced the summary report, with support from RM. ED drafted the first version of the manuscript. RM, SA, and RMc reviewed and edited the manuscript drafts. All authors contributed to and approved the final manuscript.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author(s).

FUNDING

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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DATA AVAILABILITY STATEMENT

Due to the nature of the data, requests to the first author will be considered on an individual basis.

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