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Original Research

Perinatal stress and anxiety in Ireland: experiences and support needs

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Abstract

Objectives: Perinatal stress and anxiety from conception to two years postpartum have important adverse outcomes for women and infants. This study examined (i) women's perception of sources and experiences of perinatal stress and anxiety, (ii) women's attitudes to and experiences of available supports, and (iii) women's preferences for perinatal stress and anxiety supports in Ireland.

Methods: An online mixed-methods cross-sectional survey was conducted with 700 women in Ireland. Participants were pregnant women ($n = 214$) or mothers of children ≤ 2 years old ($n = 486$). Participants completed closed-ended questionnaires on sociodemographic, birth and child factors, and on stress, anxiety, perceived social support, and resilience. Participants completed open-ended questions about experiences of stress and anxiety and the supports available for stress and anxiety during pregnancy and/or postpartum. Quantitative data were analysed descriptively and using correlations; qualitative data were analysed using thematic analysis.

Results: Quantitative data indicated significant relationships between perinatal stress and/or anxiety and women's perceived social support, resilience, having a previous mental health disorder diagnosis (both $p < 0.001$), and experiencing a high-risk pregnancy or pregnancy complications ($p < 0.01$). Themes developed in qualitative analyses included: 'perceived responsibilities'; 'self-care'; 'care for maternal health and well-being'; 'social support'; and 'access to support and information'.

Conclusions: Women's stress and anxiety are impacted by multiple diverse factors related to the individual, to interpersonal relationships, to perinatal health and mental health outcomes, and to available services and supports. Development of support-based individual-level interventions and increased peer support, coupled with improvements to service provision is needed to provide better perinatal care for women in Ireland.

Keywords: Stress; anxiety; perinatal; pregnancy; postpartum

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Introduction

The perinatal period, from conception to 2 years postpartum, represents a time of normative transition that can be experienced as stressful or cause anxiety for some women. Stress and anxiety are highly related, yet distinct concepts (Glover 2011). Stress is defined as occurring when external demands are perceived to exceed a person's capacity to cope with those demands (Lazarus 1966; Lazarus and Folkman 1984). Anxiety is a state of tension or apprehension resulting from an uncertain or unpredictable prospective internal or external threat (American Psychiatric Association, 2013; Knight and Depue 2019). Up to 84%, and approximately 15–25% of women experience perinatal stress (Woods *et al.*, 2010) and anxiety (Dennis *et al.*, 2017), respectively. Perinatal stress and/or anxiety are associated with a range of adverse obstetric, child, and maternal outcomes. These include increased risk of preterm birth (Lobel *et al.*, 2008), low birth weight (Bussières *et al.*, 2015), small for gestational age infants, reduced foetal growth (Khashan *et al.*, 2014; Lewis *et al.*, 2016), along with child neurodevelopmental (Adamson *et al.*, 2018), socioemotional (Madigan *et al.*, 2018), and physical health outcomes (Zijlmans *et al.*, 2015). Perinatal stress and anxiety can also adversely impact maternal-child attachment (Göbel *et al.*, 2018) and contribute to maternal depression (Hutchens and Kearney 2020; Norhayati *et al.*, 2015) and perinatal health behaviours (Bailey and Sokol 2011; Davenport *et al.*, 2018; Fallon *et al.*, 2016; Lindsay *et al.*, 2017; Riaz *et al.*, 2018).

Stress and anxiety during the perinatal period can result from sociodemographic, psychological, physiological, and social risk factors (Bayrampour *et al.*, 2018; Biaggi *et al.*, 2016). Such factors include experiencing adverse or stressful life events (e.g. intimate partner violence, bereavement), current or past medical complications during pregnancy (Bayrampour *et al.*, 2018; Biaggi *et al.*, 2016), having a history of mental health issues, and inadequate social support (Bayrampour *et al.*, 2018; Biaggi *et al.*, 2016; Huschke *et al.*, 2020). Poor healthcare experiences, unrealistic

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social norms and expectations, health-related concerns (McCarthy *et al.*, 2021), maternal age, parity, and income, as well as infant health complications (Goodman *et al.*, 2016; McCarthy *et al.*, 2021; Saur and Dos Santos 2021; Suwalska *et al.*, 2021), also influence perinatal stress and anxiety. In addition, the transitional nature of the perinatal period, with associated changes in roles and responsibilities, can lead to stress and anxiety (Huizink *et al.*, 2017). Importantly, sources, experiences, and approaches to coping with stress and anxiety can vary across the perinatal period (Rallis *et al.*, 2014).

Several approaches have been developed and/or used to reduce or prevent perinatal stress and anxiety. These include Cognitive Behavioural Therapy, interpersonal therapy, and psycho-educational and mindfulness-based interventions. However, the effects of these interventions, across the perinatal period, are inconsistent (Matvienko-Sikar *et al.*, 2023, 2021). Observed inconsistencies may arise due to interventions typically being targeted at either pregnancy or the postnatal period (Matvienko-Sikar *et al.*, 2023), which fails to consider the transitional nature of the perinatal period. Further, in the intervention literature, the predominant focus is on interventions developed to target other mental health issues such as depression, rather than interventions specifically focusing on stress and anxiety (Matvienko-Sikar *et al.*, 2023). Similarly, interventions are typically aimed at vulnerable or 'at-risk' populations (Matvienko-Sikar *et al.*, 2023), which fails to address perinatal stress and anxiety at the population level. In addition, the development and delivery of interventions for perinatal stress and anxiety do not always consider the experiences, needs, and preferences of the women they intend to support. Interventions that are appropriate and acceptable to women are more likely to be effective (Manolova *et al.*, 2023).

This research aims to investigate perceived sources and experiences of stress and anxiety across the first 1000 days in an Irish population to inform approaches to perinatal stress and anxiety reduction. The study also examines women's attitudes and experiences of available supports and preferences for alternative/new supports to reduce maternal stress and anxiety.

Methods

Design

An online mixed-methods cross-sectional survey was conducted, including closed and open-ended questions.

Participants

Participants were over 18 years old, currently pregnant, or self-identify as the mother of a child ≤ 2 years and have received/are receiving their antenatal and/or perinatal care in the Republic of Ireland. Participants were not excluded based on ethnicity or any sociodemographic factors.

Procedure

A convenience sampling strategy was used, with recruitment from 20 March to 31 May 2023. Online recruitment was conducted via social media (e.g. Facebook, Instagram, Twitter), and pregnancy and parenting-related forums (e.g. What to Expect). Participants were also recruited via posters displayed in medical centres and family resource centres in the south and west of Ireland.

Materials/Survey

Participants completed different versions of the survey depending on whether they were currently pregnant or had a child ≤2 years old (herein referred to as 'mothers'). Pregnant participants who also had a child ≤2 years were instructed to respond in relation to their current pregnancy. Both surveys included closed and open-ended questions. See Supplementary File 1 for full surveys.

Sociodemographic data. All participants provided information on their age, nationality, relationship status, employment status, education level, cigarette smoking, alcohol intake, type of antenatal care, satisfaction with antenatal care, whether their pregnancy was planned, number of previous pregnancies, number of other children, and experiences of previous and current health difficulties. In addition, pregnant participants were asked the current gestational week of their pregnancy. Mothers were asked the age of their youngest child, about their child's health, birth complications, and how they feed their child.

Perceived stress scale (PSS). Perceived levels of psychological stress were assessed on the 10-item PSS (Cohen *et al.*, 1983) in mothers only. This scale measures the degree to which participants' experience their lives as unpredictable, uncontrollable, and overloaded in the last month. Items are measured on a 5-point Likert scale from 'never' to 'very often', with possible scores ranging from 0 to 40. The reliability of the PSS in the current study was $\alpha = 0.88$.

Pregnancy distress questionnaire (PDQ). Pregnancy-specific stress was assessed in pregnant participants only using the PDQ (Yali and Lobel 1999). This 12-item scale measures specific worries and concerns during pregnancy regarding physical symptoms, medical problems, relationships, parenting, labour and delivery, and the health of the baby. Participants respond to statements using a 5-point Likert scale ranging from 'not at all' to 'extremely'. In the current study, the PDQ had an internal consistency coefficient of $\alpha = 0.86$.

Perinatal anxiety screening scale (PASS). The PASS is a 31-item measure of self-reported perinatal anxiety (Somerville *et al.*, 2014), using a 4-point Likert scale from 'not at all' to 'all the time'. Scores range from 0 to 93, with scores above 26 suggesting elevated levels of anxiety (Somerville *et al.*, 2014). In the current study, the reliability coefficient of the PASS was $\alpha = 0.96$.

Multidimensional scale of perceived social support (MSPSS). Participants' perceived levels of social support were measured using the 12-item MSPSS (Zimet *et al.*, 1988). This scale measures perceived support from family, friends, and significant others on a 7-point scale from 'very strongly disagree' to 'very strongly agree'. In the current study, the reliability of the overall scale was $\alpha = 0.95$, the reliability of the significant other subscale was $\alpha = 0.96$, the friends subscale was $\alpha = 0.96$, and the family subscale was $\alpha = 0.94$.

Brief resilience scale (BRS). The BRS assesses ability to rebound or recover from stress (Smith *et al.*, 2008). It is comprised of 6-items, measured on a 5-point Likert scale from 'strongly disagree' to 'strongly agree'. Higher scores represent greater resilience in dealing with adversity. In the current study, the reliability of the BRS was $\alpha = 0.88$.

Open-ended questions. Open-ended questions (eight for pregnant participants, nine for mothers) were developed by a multidisciplinary team based on existing evidence (McCarthy *et al.*, 2021). Questions explored participants' experiences of stress and anxiety either during pregnancy or postpartum, as well as their experiences and preferences for existing and alternative supports to

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minimise perinatal stress and anxiety. See Supplementary File 1 for full questions.

Ethics

Ethical approval for the study was granted by the Clinical Research Ethics Committee of the Cork Teaching Hospitals. Participants were provided with study information prior to completing the questionnaire, and informed consent was obtained from all participants prior to commencement of the online survey.

Analysis

Quantitative analysis. Descriptive statistics were calculated for sociodemographic factors, stress, anxiety, social support, and resilience. Non-parametric inferential statistics were calculated as data were non-normally distributed. Chi-squared tests were conducted to examine differences between pregnant women and mothers for categorical sociodemographic factors. Mann–Whitney *U* tests were conducted to examine differences in continuous sociodemographic factors, social support, resilience, and anxiety. Spearman's rank order correlations (for continuous variables) and point biserial correlations (for relationships between dichotomous categorical variables and continuous variables) were used to examine the role of sociodemographic variables, social support, and resilience in women's self-reported stress and anxiety. Bonferroni corrections were applied with a more conservative significance value of $p < 0.0025$, to account for multiple inferential tests.

Qualitative analysis. Open-ended responses were analysed with reflexive thematic analysis (Braun and Clarke 2021) supported by NVivo-20 software. Reflexive thematic analysis involves six phases: familiarisation with the data; initial open-coding; producing initial themes; reviewing themes; refining, defining, and naming themes; and writing up the analysis. Themes were generated, discussed, and reviewed by the full team throughout the process. Reflexive thematic analysis allows for consideration of researchers' subjective interpretations. It acknowledges the role of researchers' previous experiences, potential biases, and social positions in analyses. In this study, EL and KMS are psychologists, with experience in child health services, and conducting research on maternal and child health, respectively. SR is also a health psychologist and a public health nurse (health visitor). CH is a registered general and children's nurse who currently lectures in nursing. KMS and CH are mothers of young children; SR is the mother of a young adult who was born very preterm.

Results

Seven hundred women completed the survey: 214 (30.57%) pregnant women and 486 (69.43%) mothers. Participants were aged between 18 and 46 years (Median = 35, IQR = 5); 96.29% ($n = 674$) identified as Irish nationals. The majority of participants were married (74.32%), in paid employment (91.57%), and had completed education to a degree level or above (88.64%). Mothers were significantly more likely than pregnant women to have a higher number of previous pregnancies, more children, and have experienced a high-risk pregnancy or pregnancy complications in their most recent pregnancy. Pregnant women were significantly more likely to experience physical or psychological difficulties in previous pregnancies and reported significantly higher prenatal alcohol consumption, overall social support, and social support from significant others than mothers. See Table 1 for participant characteristics (see Supplementary File 2 for extended participant details).

Pregnant women's median perceived stress score was 16 (range 0–42); the mother's median perceived stress score was 20 (range 1–40). Pregnant women reported non-significantly lower anxiety than mothers ($p = 0.021$). See Table 2 for full mental health outcome characteristics.

Due to low levels of variance in participant nationality, relationship status, employment, education, smoking and alcohol behaviours, and satisfaction with antenatal care, these variables were excluded from analyses. In correlational analyses, lower levels of perceived social support (overall and for each subscale) and resilience were significantly associated with higher levels of anxiety and stress in pregnant women and mothers (all $p < 0.001$). Previous diagnosis of a mental health disorder/issue was significantly associated with higher anxiety in pregnant women, mothers, and the overall sample (all $p < 0.001$), and higher stress for mothers only ($p < 0.001$). Experiencing a high-risk pregnancy or pregnancy complications in their most recent pregnancy was significantly associated with higher anxiety for mothers ($p = 0.006$), and the full sample ($p = 0.007$) but not for pregnant women ($p = 0.91$). Experiencing a high-risk pregnancy or pregnancy complications was not associated with stress for either pregnant women ($p = 0.83$) or mothers ($p = 0.03$). 'Excellent' child health at birth only was associated with lower maternal anxiety ($p = 0.004$). 'Excellent' child health at both birth and now was associated with lower maternal stress (both $p < 0.001$). No other demographic factors were significantly correlated with stress or anxiety. See Supplementary File 3 for correlation tables.

Qualitative findings

Five themes were developed. Four themes relate to women's experiences of causes, impacts, and ways of coping with stress and anxiety across the perinatal period: (1) perceived responsibilities; (2) self-care; (3) care for maternal health and well-being; (4) and social support. The fifth theme, access to support and information, outlines women's perception of the role of healthcare professionals in helping them find support and information in an accessible way. Example quotes for all themes are presented in Table 3. Unless otherwise stated, all findings relate to the experiences of women *across* the perinatal period.

Perceived responsibilities

Many women identified that balancing the different responsibilities in their lives was a source of stress and anxiety. Perceived responsibilities included children's well-being, women's role as (an expectant) parent, and general life worries. The health and well-being of their children were a constant source of worry throughout the perinatal period. Women's worries included fear of miscarriage, concerns about the health of the baby when they are born, and/or that 'bad things' could happen to their child in the future. Mothers also expressed anxiety around their baby's eating, sleeping, and meeting their developmental milestones. Worrying about their baby having a developmental delay, disability, or medical issues was an additional source of anxiety for some mothers.

Many women also reported stress and anxiety due to perceived responsibilities associated with pregnancy and parenthood. Mothers described the pressure of 'getting everything right' (Mother; ID 684) regarding their child's well-being,

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Table 1. Participant characteristics

	Full sample			Pregnant women			Mothers			
	N	Median (IQR)	Range	N	Median (IQR)	Range	N	Median (IQR)	Range	Between-group differences
Age	682	35 (5)	18–46	213	34 (5)	23–46	469	35 (4)	18–46	$p = 0.027$
No. previous pregnancies	696	1 (2)	0–9	214	1 (1)	0-6	482	1 (2)	0–9	$p < 0.001$
No. other children	692	1 (1)	0–9	212	1 (0)	03	480	0.50 (1)	0–9	$p < 0.001$
Current gestation (weeks)	–	–	–	214	23.50 (16)	4–40	–	–	–	
Age of youngest child (months)	–	–	–	–	–	–	483	9 (10)	0.5–24	
Social support (MSPSS)	699	70 (17)	12–84	214	72 (15)	12–84	485	69 (18.50)	12–84	$p < 0.001$
Significant other subscale	699	26 (5)	4–28	214	28 (4)	4–28	485	25 (5)	4–28	$p < 0.001$
Family subscale	699	23 (8)	4–28	214	24 (6)	4–28	485	22 (9)	4–28	$p = 0.011$
Friends subscale	699	22 (8)	4–28	214	23 (6)	4–28	485	22 (9)	4–28	$p = 0.014$
Resilience (BRS)	699	20 (6)	6–30	213	20 (6)	7–30	486	20 (6)	6–30	$p = 0.77$
	N	**%**		**N**	**%**		**N**	**%**		
Nationality*										$p = 0.19$ ^
Irish	674	96.29		203	94.86		471	96.91		
European	18	2.57		10	4.67		8	1.65		
North American	3	0.43		1	0.47		2	0.41		
Other	5	0.71		0	0		5	1.03		
Relationship status (grouped)										$p = 0.47$
Married	518	74.32		153	71.83		365	75.41		
In a relationship, not married	162	23.24		53	24.88		109	22.52		
Single	17	2.44		7	3.27		10	2.07		
In paid employment										$p = 0.14$
Yes	641	91.57		201	93.93		440	90.54		
No	59	8.43		13	6.08		46	9.47		
Highest education level**										$p = 0.03$
Below degree level	79	11.35		20	9.39		59	12.22		
Undergraduate degree	216	31.03		51	23.94		165	34.16		
Postgraduate degree	357	51.29		125	58.69		232	48.03		
Doctorate	44	6.32		17	7.98		27	5.59		
Smoking during current or most recent pregnancy										$p = 0.12$
Yes	11	1.57		1	0.47		10	2.06		
No	688	98.43		212	99.53		476	97.94		
Alcohol intake during current or most recent pregnancy ***										$p < 0.001$ ^^
No alcohol	662	94.71		190	88.79		472	97.32		
1–2 standard drinks	31	4.43		18	8.41		13	2.68		
3–5 standard drinks	6	0.86		6	2.80		0	0		
6 or more standard drinks	0	0		0	0		0	0		
Type of antenatal care										$p = 0.37$
Public	424	60.74		124	58.22		300	61.86		
Private	274	39.26		89	41.78		185	38.14		
Satisfaction with antenatal care										$p = 0.025$
Very satisfied	235	33.57		68	31.78		167	34.36		
Satisfied	275	39.29		93	43.46		182	37.45		

(*Continued*)

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Table 1. (*Continued*)

	Full sample			Pregnant women			Mothers			Between-group differences
	N	Median (IQR)	Range	N	Median (IQR)	Range	N	Median (IQR)	Range	
Neutral	107	15.29		39	18.22		68	13.99		
Dissatisfied	65	9.29		12	5.61		53	10.91		
Very dissatisfied	18	2.57		2	0.94		16	3.29		
Planned pregnancy										$p = 0.015$
Yes	628	89.71		201	93.93		427	87.86		
No	72	10.29		13	6.08		59	12.14		
Health of child at birth										
Excellent	–	–		–	–		363	74.69		
Good	–	–		–	–		90	18.52		
Poor	–	–		–	–		30	6.17		
Very poor	–	–		–	–		3	0.62		
Health of child now										
Excellent	–	–		–	–		394	81.57		
Good	–	–		–	–		79	16.36		
Poor	–	–		–	–		10	2.07		
Very poor	–	–		–	–		0	0.00		
Diagnosis of mental health disorder/issue										$p = 0.029$
Yes	175	25.00		42	19.63		133	27.37		
No	525	75.00		172	80.37		353	72.63		
Currently experiencing/experienced high-risk pregnancy/ pregnancy complications										$p < 0.001$
Yes	218	31.32		44	20.56		174	36.10		
No	478	68.68		170	79.44		308	63.90		
Experience physical/psychological difficulties in previous pregnancies/births										$p < 0.001$
Yes	246	35.19		93	43.66		153	31.48		
No	239	34.19		77	36.15		162	33.33		
Not applicable	214	30.62		43	20.19		171	35.19		

- no relevant data.
^ chi-square test carried out comparing Irish and not Irish due to small numbers in other groups.
^^ chi-square test carried out comparing any alcohol and no alcohol due to small numbers in other groups.
*European: British; Croatian; Danish; Dutch; French; German; Italian; Spanish.
North American: USA.
Other: Brazilian; Chilean; South African; Venezuelan.
**Below degree level: secondary school; technical/vocational qualification; Non-degree qualification.
***6 or more standard drinks: 6–10 standard drinks; 11 or more standard drinks.

Table 2. Mental health outcome characteristics

	Full sample			Pregnant women			Mothers			Between-group differences
	N	Median (IQR)	Range	N	Median (IQR)	Range	N	Median (IQR)	Range	
Stress (PDQ)	-	-	-	214	16 (14)	0–42	-	-	-	
Stress (PSS)	-	-	-	-	-	-	486	20 (10)	1–40	
Anxiety (PASS)	700	24.50 (26)	0–91	214	22 (28)	0–84	486	26 (25.25)	1–91	$p = 0.021$

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Table 3. Themes and exemplar quotes

Theme	Example Quotes
Perceived Responsibilities	• 'I find myself worrying if my baby is healthy [. . .] It's as if my mind jumps to the worst-case scenario when there could be nothing wrong'. (Mother; ID 511) • 'I also find milestones stressful and constantly worry that my baby is not meeting some milestones on the correct schedule and that she may have developmental issues'. (Mother; ID 613) • 'The list is genuinely endless but I feel like I need to try to ensure my babies reach their full potential while also presenting the best version of myself so I can be a positive role model for them'. (Mother; ID 155) • 'Breastfeeding was a massive stress for us as he wasn't putting on weight and we needed to stop and at the time felt like a massive failure and it still does sit with me now'. (Mother; ID 684) • 'Life is busy with 3 small children to take care of, I do not have time for the baby not to fall into our routine and I'm managing the affairs of my elderly [mother] whilst dealing with the death of my father'. (Mother; ID 56)
Self-care	• 'I am making some time to do things for myself, because without that my mental health suffers'. (Mother; ID 559) • 'Going for a walk with the babies is a huge stress [relief] for me. I place importance on going outside even if I find I have to turn back and come home after 5 minutes'. (Mother, ID 415) • 'Hypnobirthing was a HUGE help to me during my first pregnancy in helping me remain grounded and live in the present moment, helped reduce worrying hugely and helped my mindset for labour'. (Pregnant; ID 550) • 'Lack of sleep stresses me as I find it hard to cope when my sleep quality isn't good. (Mother; ID 672)
Care for maternal health and well-being	• 'I feel like I carry this stress with me all the time, the constant worry'. (Pregnant; ID 212) • 'I find it hard to concentrate in work and be present with my kids'. (Pregnant; ID 85) • 'I felt that I didn't have long enough in hospital to recover, I was sent home after 2 days. Found it difficult to recover from surgery and look after baby at home'. (Mother, ID 255) • 'Worried about whether I will have a similar birth experience with this pregnancy and anxious about whether I will make the right decision'. (Pregnant; ID 128) • 'Ask to be referred to hospital's perinatal health team at 6-week debrief. Knew it wasn't normal how I was behaving. They were brilliant'. (Mother; ID 491) • 'I linked with the birth reflections midwife through my maternity hospital to discuss the events surrounding my most recent birth and to help me process some of my feelings'. (Mother; ID 654) • 'All focus shifts to the baby when they are born and there is little interest in the mother's health, especially mental health. However, this is the time they need support the most'. (Mother; ID 679)
Social Support	• 'Everyone asked me how I was doing while pregnant, very few ask me how I am doing now'. (Mother; ID 137) • 'Speaking with other moms [. . .] We all have the same worries and struggles so it's nice to [offload] and not feel judged'. (Mother; ID 649) • '[I benefit from talking] to my partner when I'm feeling overwhelmed'. (Mother; ID 549) • 'I'm part of an amazing Facebook group of mothers [. . .] who are so generous with their time and knowledge and sharing their advice or who are there in solidarity for all the stages so far. It's been an absolute godsend for sanity'. (Mother; ID 122) • 'I get frustrated, mostly with my husband, I feel like his life is so easy and his thoughts are so clear. He doesn't have to worry about all the small trivial things [. . .] that take up far too much space in my mind'. (Mother, ID 509) • 'If I do not have to leave my house I do not . . . I never call to family or friends anymore and I rarely invite people over. I haven't seen any of my friends in 6 months. I rarely see or talk to my parents anymore'. (Mother, ID 61)
Access to support and information	• 'Better care for mam. Found once you had baby you were [forgotten] about . . . once 6-week check is done it's up to you to get in touch for help and support'. (Mother; ID 258) • 'Should be a mandatory check-up for all mothers for their mental health so they can assess how they're feeling and whether it is normal'. (Mother; ID 118) • 'More information and signposting to perinatal mental health supports would be helpful . . . I found it strange that none of the professionals I linked with after my birth signposted me to the appropriate services'. (Mother; ID 654) • 'All of the suggestions – I think to be really taken in there needs to be a multi-modal approach with a flexible approach that women might need different supports pending their own journey'. (Mother; ID 722)

now and in the future. The societal expectations associated with 'being a good mother' (Mother; ID 19) were a notable cause of stress, particularly if women felt they were failing to live up to these expectations. Some women described feeling pressure to breastfeed as they felt it was best for their baby, but the lack of support available for breastfeeding mothers caused additional stress. Mothers highlighted their own anxiety around returning to work and additional stress around the impact this would have on their child(ren).

Women also expressed feeling stress and anxiety related to general life issues including daily chores, work-related issues, accessing childcare, broader familial caring responsibilities, housing, and financial worries. Some women also mentioned dealing with other stressors during the perinatal period including bereavement, which significantly impacted their experiences.

Self-care

Engaging in self-care behaviours that involved taking time out for themselves, such as exercise, relaxation techniques, and holistic therapies, was important to many women. Making time for hobbies, interests, and entertainment was an important aspect of self-care. Women reported engaging in different types of exercise, including going out for walks, both by themselves and with their babies. Walking gave women an opportunity to get outside in nature and fresh air, which was important for managing stress and anxiety. Other forms of exercise such as yoga, swimming, Pilates, and going to the gym were also mentioned as helpful. Some women expressed how exercise had always been important to them and that retaining this during pregnancy and following the birth of their child was beneficial. The longer-term benefits of staying 'fit and active' (Pregnant; ID 34) during pregnancy and after birth were also mentioned. Holistic therapies such as breathing

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exercises, meditation, mindfulness, and hypnobirthing were also reported as strategies to relieve stress and anxiety.

The importance of sleep was noted. Being able to get a good night's sleep helped women manage feelings of stress and anxiety, while sleep difficulties added to negative feelings. Women also noted, in a cyclical relationship, that feeling stressed or anxious had a negative impact on their sleep, in turn causing additional tiredness during the day. Similarly, not being able to engage in self-care strategies, including having a lack of time to themselves, was mentioned as both a cause and consequence of their anxiety and stress. It also impacted women's desire and perceived ability to engage in self-care activities, which in turn led to further negative feelings.

Care for maternal health and well-being

Most women reported that stress and anxiety negatively impacted their health and emotional well-being. Anxiety and stress led to worry, overthinking, rumination, and feeling overwhelmed, like 'my thoughts are on overdrive' (Mother; ID 385), and like everything is 'constantly building up' (Mother; ID 165). Lack of concentration and focus and experiencing feelings of panic were also consequences of stress and anxiety.

Some women expressed that their own physical health concerns were a significant cause of stress and anxiety. These included medical issues resulting from pregnancy/childbirth (e.g. caesarean section) and health issues unrelated to pregnancy (e.g. pre-existing illnesses and COVID-19). Women were also anxious that their health issues would impact their ability to care for their children. Pregnant women expressed concerns about childbirth, including uncertainty and fear that something may go wrong, or that their wishes would not be respected during labour. This was particularly noted by women who had experienced previous difficulties during childbirth.

Some women reported engaging with formal healthcare supports such as Perinatal Mental Health Teams in local hospitals or other psychological supports including counselling and psychotherapy. Women reported that, when available, birth reflection services were helpful. Women also reported seeking healthcare supports from professionals including general practitioners, public health nurses, midwives, lactation consultants, doulas, and holistic practitioners. Many mothers reported differences in their experiences of health support services during their pregnancy compared with after their baby was born. Mothers felt that they received good mental and physical healthcare support during pregnancy but that this decreased after birth, despite needing more ongoing support in the postnatal period.

Social support

Good social support made women feel less stressed and anxious across the perinatal period. Social support included support from friends, family, partner, organised maternity/new mother groups, and the online community. However, many women felt they received less social support postpartum than during pregnancy, despite feeling they needed more support during this time to alleviate loneliness, isolation, stress, and anxiety.

Talking with women who were also pregnant or had young children, was described as very important, as these individuals had similar experiences and could share their stories. Women commented on the importance of 'mum and baby classes' for social support after birth and expressed a desire for additional resources in this area. These groups encouraged women to get out of the house and meet with other mothers with shared experiences. Women expressed how more openness and normalising the feelings and experiences associated with the realities of parenthood were important for dealing with stress and anxiety. Social media and pregnancy/parenting forums also provided women with reassurance and a sense of community.

Many women also outlined the importance of both emotional and practical support from their partner, though this was reported less frequently by participants in this study. Furthermore, a lack of support from partners was a cause of stress and anxiety for women. Women described becoming irritated, frustrated, and resentful when they felt unsupported by a partner who did not seem to understand their feelings; or was perceived as not taking on the same amount of responsibility.

Stress and anxiety also impacted women's wider social interactions and relationships. Women became disengaged, withdrew from social interactions, and did not want to be around people, including friends and family. Anxious feelings often made it harder for women to go out or in some cases stopped them from leaving their homes at all.

Access to support and information

Many women voiced a strong need for greater information, resources, and support for their physical and mental health during the perinatal period, specifically 'support as a person in my own right' (Mother; ID 694). This was particularly noted in the postpartum period when women felt that healthcare focused more on the health of the baby than their own needs. As a result, women felt abandoned and 'like a baby-making machine not a person' (Mother; ID 172). Women reported wanting increased postnatal follow-up contact and support from healthcare professionals, and services to address mental health concerns. Information about when to seek additional support and when they needed to engage with healthcare professionals was also important to women.

Women also expressed a need to know more about available mental health supports during the perinatal period; including where to access supports, resources, and information. Although some women had engaged with the Irish Perinatal Mental Health Services, some felt there should be more information and awareness about this service. Other women attended private therapy or counselling because they had been unable to access psychological support through the public system or did not know if it was available. Women reported that they would like to receive information, resources, and supports to help with stress and anxiety in a flexible manner. Flexibility was seen as ensuring 'women can have multiple ways of accessing [supports]' (Pregnant; ID 644) and they could access support in the most suitable way for their needs at that time.

Discussion

This study examined women's perceived sources and experiences of perinatal stress and anxiety and their experiences and needs for perinatal mental health supports. Several factors were found to contribute to perinatal stress and/or anxiety, including low social support, low resilience, experiencing previous maternal mental health issues, experiencing a high-risk pregnancy, and poorer perceived child health. Qualitative findings identified perceived responsibilities, concerns about maternal health and well-being, self-care, social support, and access to support and information to be associated with perinatal stress and/or anxiety.

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Building on existing literature (Bayrampour *et al.*, 2018; Biaggi *et al.*, 2016; Huschke *et al.*, 2020; McCarthy *et al.*, 2021), this study provides evidence for the importance of social support in women's experiences of perinatal stress and/or anxiety. Our finding that mothers reported significantly lower levels of perceived social support (specifically from significant others) than pregnant women was supported by qualitative findings that mothers felt they received less support in the postnatal period. This highlights an important difference in current and potential future support provision to women across the perinatal period, with a need for increased social support provision postpartum. In our study, women did not express a desire for greater partner support, though this has a significant influence on perinatal stress and/or anxiety (Biaggi *et al.*, 2016; Huschke *et al.*, 2020; McCarthy *et al.*, 2021). This may be because reported social support levels were high overall. However, women in this study expressed experiences of greater support from other women who had current or previous similar experiences of pregnancy and parenting, including sisters, mothers, and pregnancy/parenting groups. Women also expressed a desire for greater availability and access to such support groups to help manage stress and/or anxiety. Engaging with these social supports to manage feelings of stress and/or anxiety is something women are already doing, and find helpful, across the perinatal period. It is therefore important to build on these positive relationships and foster these supports in the future to reduce maternal stress and/or anxiety.

Access to support groups and supportive others was often discussed in relation to gaining information, advice, and experiences about pregnancy and motherhood. Such information and support can alleviate concerns women have about their own and their baby's health and well-being. Unsurprisingly then, and in line with previous research (Ayers *et al.*, 2019; McCarthy *et al.*, 2021), when an infant's health was not reported as 'excellent', and when women had concerns about their babies' health, this led to increased stress and/or anxiety. It is important to note that in this study, there was a discrepancy between how women rated their child's health (typically as very healthy) and the concerns they expressed in open-ended responses about their child's health. Such discrepancies speak to women's feelings of uncertainty about child health outcomes that are outside their control (Harrison *et al.*, 2020; Jones *et al.*, 2022). Similarly, previous experiences of challenges during pregnancy, birth, and postpartum, in addition to perceptions of societal expectations about pregnancy and around motherhood, contributed to perinatal stress and/or anxiety. The psychological impact of the transition to motherhood, and the reorganisation of women's roles, responsibilities, and priorities have also been previously identified as sources of stress and/or anxiety (Nelson 2003).

In line with previous research (Biaggi *et al.*, 2016; Huschke *et al.*, 2020), this study found that having a history of maternal mental health issues was significantly associated with higher levels of perinatal anxiety. Identification of women who are at increased risk due to previous mental health issues, and other factors identified in this study such as experiencing a high-risk pregnancy, is therefore essential. However, previous research has found that healthcare professionals feel they have inadequate skills and training to identify and provide suitable mental health supports and interventions (Pope *et al.*, 2023). In addition, in the current study, women felt ill-informed about mental health issues and unable to identify when they required additional support. Women also described feeling abandoned, isolated, and uncared for, particularly in the postnatal period. A perceived reduction in support following the birth of their baby suggests a discrepancy between women's needs and the support available within the healthcare service. Women's perceptions of inadequate availability of mental health care in this study are consistent with existing research on Irish Perinatal Mental Health Services, which concluded that the current care provision service is 'insufficient' to meet women's mental health needs (Huschke *et al.*, 2020, p. 6). This combination of healthcare professionals' perceived constraints and lack of information provision for women increases the likelihood of failure to identify when women require additional support.

To overcome such issues, increased support, training, and awareness for healthcare professionals providing maternity care, with increased availability and provision of information is needed to better support women during the perinatal period (Pope *et al.*, 2023). Dedicated healthcare appointments for maternal healthcare issues were also suggested by women as potentially helpful, particularly postnatally. Providing a centralised source of support women can refer to was recommended for future development, such as, for instance, the Specialist Perinatal Mental Health Services and Perinatal Mental Health app that is currently targeted for development (Health Service Executive 2023). Our findings indicated that such digital resources, coupled with the availability of in-person healthcare supports, are needed.

In addition to the provision of external services and supports, this study identified several positive, proactive psychological and behavioural factors that women felt helped reduce perinatal stress and/or anxiety. For instance, higher levels of resilience were associated with lower stress and/or anxiety, indicating an important psychological construct that can be fostered to support perinatal mental health (Saur and Dos Santos 2021). Using self-care strategies such as exercise, relaxation techniques, and holistic therapies was also described by women in this study across the perinatal period. Previous research on the effects of such strategies for perinatal stress and/or anxiety has demonstrated inconsistent findings; however, methodological limitations of individual studies have been noted, for example (Beddoe and Lee 2008; Davenport *et al.*, 2018; Evans *et al.*, 2018; Hall *et al.*, 2016; Matvienko-Sikar *et al.*, 2023, 2021). Robust future research is warranted to determine the impact of such strategies and activities that women already engage in and describe as beneficial. In particular, research with women from lower socio-economic groups and/or marginalised communities, who may experience differing psychological outcomes and self-care strategies is needed.

Strengths and limitations

Women in this study were predominantly Irish nationals, married or in a relationship, and educated to degree levels or higher, which limits the generalisability of our findings beyond the sample included in this study. As such, differential experiences and support needs of disadvantaged and/or marginalised communities (Suwalska *et al.*, 2021) may have been missed, and offer an important avenue for future research. Participant ethnicity or length of time living in Ireland was also not collected, and as a result, the varied experiences of minority ethnic groups and/or immigrants to Ireland were not explored, which limits the generalisability of our findings. However, our findings are comparable to those from the broader international literature (Bayrampour *et al.*, 2018; McCarthy *et al.*, 2021), indicating applicability beyond the Irish and sample-specific context of this study. In addition, it was not possible to investigate some social and

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demographic risk factors of stress and anxiety (e.g. smoking) due to low variability within the sample. This study did not specifically examine the role of current mental health diagnoses and/or depression on study outcomes, future research examining these factors would be beneficial to expand on the current findings. Similarly, we did not examine the influence of whether women were linked with perinatal or community mental health services, and/or whether they were receiving pharmaceutical or psychological support for stress and/or anxiety, as this information was not collected; thus representing an opportunity for further research. Despite these limitations strengths of the study include the mixed-methods approach that enabled the examination of both quantitative factors that contribute to stress and anxiety and participants' qualitative lived experiences. The large sample size and overall high completion rate of qualitative questions are also a strength of the study, enabling a comprehensive examination of sources and experiences of stress and anxiety and needs and preferences for perinatal mental health supports.

Conclusion

The findings demonstrate women's experiences and perceptions of perinatal stress and anxiety, as well as what women find supportive, or not, during the perinatal period. Overall, women want greater support during the period as they often feel abandoned and alone in their experiences. At an interpersonal level, women value support from partners, friends, family, and support groups of others going through similar experiences. At a service level, women want more support from the healthcare services and greater contact with healthcare professionals, particularly in the postpartum period. Women want this contact to focus on their own health and well-being needs, along with the needs of their babies. This study also highlights the importance of building on the positive proactive supports women already engage in and find helpful, including fostering resilience and allowing women the time and space to engage in self-care. Development of support-based interventions and interventions based on positive support for reducing stress and anxiety across the perinatal period are needed. This must be coupled with improvements to service provision across the perinatal period to better support women at a population level.

Supplementary material. The supplementary material for this article can be found at https://doi.org/10.1017/ipm.2024.52.

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Ethical standard. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committee on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008. Ethical approval for the study was granted by the University College Cork Social Research Ethics Committee (Log 2022-245).

References

Adamson B, Letourneau N, Lebel C (2018). Prenatal maternal anxiety and children's brain structure and function: a systematic review of neuroimaging studies. *Journal of Affective Disorders* **241**, 117–126. doi:10.1016/j.jad.2018.08.029.

American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition, American Psychiatric Association. doi: 10.1176/appi.books.9780890425596.

Ayers S, Crawley R, Webb R, Button S, Thornton A, the HABiT collaborative group (2019). What are women stressed about after birth? *Birth* **46**, 678–685. doi:10.1111/birt.12455.

Bailey BA, Sokol RJ (2011). Prenatal alcohol exposure and miscarriage, stillbirth, preterm delivery, and sudden infant death syndrome. *Alcohol Research & Health* **34**, 86.

Bayrampour H, Vinturache A, Hetherington E, Lorenzetti DL, Tough S (2018). Risk factors for antenatal anxiety: a systematic review of the literature. *Journal of Reproductive and Infant Psychology* **36**, 476–503. doi:10.1080/02646838.2018.1492097.

Beddoe AE, Lee KA (2008). Mind-body interventions during pregnancy. *Journal of Obstetric, Gynecologic & Neonatal Nursing* **37**, 165–175. doi:10.1111/j.1552-6909.2008.00218.x.

Biaggi A, Conroy S, Pawlby S, Pariante CM (2016). Identifying the women at risk of antenatal anxiety and depression: a systematic review. *Journal of Affective Disorders* **191**, 62–77. doi:10.1016/j.jad.2015.11.014.

Braun V, Clarke V (2021). *Thematic Analysis: A Practical Guide*. SAGE Publications.

Bussières E-L, Tarabulsy GM, Pearson J, Tessier R, Forest J-C, Giguère Y (2015). Maternal prenatal stress and infant birth weight and gestational age: a meta-analysis of prospective studies. *Developmental Review* **36**, 179–199. doi:10.1016/j.dr.2015.04.001.

Cohen S, Kamarck T, Mermelstein R (1983). A global measure of perceived stress. *Journal of Health and Social Behavior* **24**, 385. doi:10.2307/2136404.

Davenport MH, Ruchat S-M, Poitras VJ, Jaramillo Garcia A, Gray CE, Barrowman N, *et al.* (2018). Prenatal exercise for the prevention of gestational diabetes mellitus and hypertensive disorders of pregnancy: a systematic review and meta-analysis. *British Journal of Sports Medicine* **52**, 1367–1375. doi:10.1136/bjsports-2018-099355.

Dennis C-L, Falah-Hassani K, Shiri R (2017). Prevalence of antenatal and postnatal anxiety: systematic review and meta-analysis. *British Journal of Psychiatry* **210**, 315–323. doi:10.1192/bjp.bp.116.187179.

Evans K, Morrell CJ, Spiby H (2018). Systematic review and meta-analysis of non-pharmacological interventions to reduce the symptoms of mild to moderate anxiety in pregnant women. *Journal of Advanced Nursing* **74**, 289–309. doi:10.1111/jan.13456.

Fallon V, Bennett KM, Harrold JA (2016). Prenatal anxiety and infant feeding outcomes: a systematic review. *Journal of Human Lactation* **32**, 53–66. doi:10.1177/0890334415604129.

Glover V (2011). Annual research review: prenatal stress and the origins of psychopathology: an evolutionary perspective. *Journal of Child Psychology and Psychiatry* **52**, 356–367. doi:10.1111/j.1469-7610.2011.02371.x.

Göbel A, Stuhrmann LY, Harder S, Schulte-Markwort M, Mudra S (2018). The association between maternal-fetal bonding and prenatal anxiety: an explanatory analysis and systematic review. *Journal of Affective Disorders* **239**, 313–327. doi:10.1016/j.jad.2018.07.024.

Goodman JH, Watson GR, Stubbs B (2016). Anxiety disorders in postpartum women: a systematic review and meta-analysis. *Journal of Affective Disorders* **203**, 292–331. doi:10.1016/j.jad.2016.05.033.

Hall HG, Beattie J, Lau R, East C, Anne Biro M (2016). Mindfulness and perinatal mental health: a systematic review. *Women and Birth* **29**, 62–71. doi:10.1016/j.wombi.2015.08.006.

Harrison V, Moore D, Lazard L (2020). Supporting perinatal anxiety in the digital age; a qualitative exploration of stressors and support strategies. *BMC Pregnancy Childbirth* **20**, 363. doi:10.1186/s12884-020-02990-0.

Health Service Executive (2023). Specialist perinatal mental health services. (https://www.hse.ie/eng/services/list/4/mental-health-services/specialist-perinatal-mental-health/). Accessed 26th October 2023.

Huizink AC, Menting B, De Moor MHM, Verhage ML, Kunseler FC, Schuengel C, Oosterman M (2017). From prenatal anxiety to parenting stress: a longitudinal study. *Archives of Women's Mental Health* **20**, 663–672. doi:10.1007/s00737-017-0746-5.

Huschke S, Murphy-Tighe S, Barry M (2020). Perinatal mental health in Ireland: a scoping review. *Midwifery* **89**, 102763. doi: 10.1016/j.midw.2020.102763.

Hutchens BF, Kearney J (2020). Risk factors for postpartum depression: an umbrella review. *Journal of Midwifery & Women's Health* **65**, 96–108. doi:10.1111/jmwh.13067.

Jones K, Harrison V, Moulds ML, Lazard L (2022). A qualitative analysis of feelings and experiences associated with perinatal distress during the COVID-19 pandemic. *BMC Pregnancy Childbirth* **22**, 572. doi:10.1186/s12884-022-04876-9.

Khashan AS, Everard C, McCowan LME, Dekker G, Moss-Morris R, Baker PN, Poston L, Walker JJ, Kenny LC (2014). Second-trimester maternal distress increases the risk of small for gestational age. *Psychological Medicine* **44**, 2799–2810. doi:10.1017/S0033291714000300.

Knight LK, Depue BE (2019). New frontiers in anxiety research: the translational potential of the bed nucleus of the stria terminalis. *Frontiers in Psychiatry* **10**, 510. doi:10.3389/fpsyt.2019.00510.

Lazarus RS (1966). *Psychological Stress and the Coping Process*. McGraw-Hill: New York, NY, US.

Lazarus RS, Folkman S (1984). *Stress, Appraisal, and Coping*. Springer Pub. Co: New York, New York.

Lewis AJ, Austin E, Galbally M (2016). Prenatal maternal mental health and fetal growth restriction: a systematic review. *Journal of Developmental Origins of Health and Disease* **7**, 416–428. doi:10.1017/S2040174416000076.

Lindsay KL, Buss C, Wadhwa PD, Entringer S (2017). The interplay between maternal nutrition and stress during pregnancy: issues and considerations. *Annals of Nutrition and Metabolism* **70**, 191–200. doi:10.1159/000457136.

Lobel M, Cannella DL, Graham JE, DeVincent C, Schneider J, Meyer BA (2008). Pregnancy-specific stress, prenatal health behaviors, and birth outcomes. *Health Psychology* **27**, 604–615. doi:10.1037/a0013242.

Madigan S, Oatley H, Racine N, Fearon RMP, Schumacher L, Akbari E, Cooke JE, Tarabulsy GM (2018). A meta-analysis of maternal prenatal depression and anxiety on child socioemotional development. *Journal of the American Academy of Child & Adolescent Psychiatry* **57**, 645–657.e8. doi:10.1016/j.jaac.2018.06.012.

Manolova G, Waqas A, Chowdhary N, Salisbury TT, Dua T (2023). Integrating perinatal mental healthcare into maternal and perinatal services in low and middle income countries. *BMJ* **381**, e073343. doi:10.1136/bmj-2022-073343.

Matvienko-Sikar K, Flannery C, Redsell S, Hayes C, Kearney PM, Huizink A (2021). Effects of interventions for women and their partners to reduce or prevent stress and anxiety: a systematic review. *Women and Birth* **34**, e97–e117. doi:10.1016/j.wombi.2020.02.010.

Matvienko-Sikar K, Redsell S, Flannery C (2023). Effects of maternal stress and/or anxiety interventions in the first 1000 days: systematic review of reviews. *Journal of Reproductive and Infant Psychology* **41**, 114–151. doi:10.1080/02646838.2021.1976400.

McCarthy M, Houghton C, Matvienko-Sikar K (2021). Women's experiences and perceptions of anxiety and stress during the perinatal period: a systematic review and qualitative evidence synthesis. *BMC Pregnancy Childbirth* **21**, 811. doi:10.1186/s12884-021-04271-w.

Nelson AM (2003). Transition to motherhood. *Journal of Obstetric, Gynecologic & Neonatal Nursing* **32**, 465–477. doi:10.1177/0884217503255199.

Norhayati MN, Nik Hazlina NH, Asrenee AR, Wan Emilin WMA (2015). Magnitude and risk factors for postpartum symptoms: a literature review. *Journal of Affective Disorders* **175**, 34–52. doi:10.1016/j.jad.2014.12.041.

Pope J, Redsell S, Houghton C, Matvienko-Sikar K (2023). Healthcare professionals' experiences and perceptions of providing support for mental health during the period from pregnancy to two years postpartum. *Midwifery* **118**, 103581. doi:10.1016/j.midw.2022.103581.

Rallis S, Skouteris H, McCabe M, Milgrom J (2014). A prospective examination of depression, anxiety and stress throughout pregnancy. *Women and Birth* **27**, e36–e42. doi:10.1016/j.wombi.2014.08.002.

Riaz M, Lewis S, Naughton F, Ussher M (2018). Predictors of smoking cessation during pregnancy: a systematic review and meta-analysis: predictors of smoking-cessation. *Addiction* **113**, 610–622. doi:10.1111/add.14135.

Saur AM, Dos Santos MA (2021). Risk factors associated with stress symptoms during pregnancy and postpartum: integrative literature review. *Women & Health* **61**, 651–667. doi:10.1080/03630242.2021.1954132.

Smith BW, Dalen J, Wiggins K, Tooley E, Christopher P, Bernard J (2008). The brief resilience scale: assessing the ability to bounce back. *International Journal of Behavioral Medicine* **15**, 194–200. doi:10.1080/10705500802222972.

Somerville S, Dedman K, Hagan R, Oxnam E, Wettinger M, Byrne S, Coo S, Doherty D, Page AC (2014). The perinatal anxiety screening scale: development and preliminary validation. *Archives of Women's Mental Health* **17**, 443–454. doi:10.1007/s00737-014-0425-8.

Suwalska J, Napierała M, Bogdański P, Łojko D, Wszołek K, Suchowiak S, Suwalska A (2021). Perinatal mental health during COVID-19 pandemic: an integrative review and implications for clinical practice. *Journal of Clinical Medicine* **10**, 2406. doi:10.3390/jcm10112406.

Woods SM, Melville JL, Guo Y, Fan M-Y, Gavin A (2010). Psychosocial stress during pregnancy. *American Journal of Obstetrics and Gynecology* **202**, 61.e1–61.e7. doi:10.1016/j.ajog.2009.07.041.

Yali AM, Lobel M (2009). Coping and distress in pregnancy: an investigation of medically high risk women. *Journal of Psychosomatic Obstetrics & Gynecology* **20**, 39–52. doi:10.3109/01674829909075575.

Zijlmans MAC, Riksen-Walraven JM, De Weerth C (2015). Associations between maternal prenatal cortisol concentrations and child outcomes: a systematic review. *Neuroscience & Biobehavioral Reviews* **53**, 1–24. doi:10.1016/j.neubiorev.2015.02.015.

Zimet GD, Dahlem NW, Zimet SG, Farley GK (1988). The Multidimensional scale of perceived social support. *Journal of Personality Assessment* **52**, 30–41. doi:10.1207/s15327752jpa5201_2.

https://doi.org/10.1017/ipm.2024.52 Published online by Cambridge University Press