A Qualitative Analysis of Feelings and Experiences Associated With Perinatal Distress During the Covid-19 Pandemic

Katie Jones (katie.jones@open.ac.uk)
The Open University
Virginia Harrison
The Open University
Michelle L. Moulds
UNSW Sydney

Research Article

Keywords: Perinatal distress, perinatal anxiety, perinatal depression, antenatal, postnatal, mental health

Posted Date: September 15th, 2021

DOI: https://doi.org/10.21203/rs.3.rs-828145/v1

Abstract

Background: Rates of perinatal psychological difficulties (experienced during pregnancy and the twelve-months postpartum) increased dramatically worldwide during the COVID-19 pandemic. In the UK, anxiety and depression were estimated to affect more than half of perinatal women during the first national lockdown. However, little is known about women's qualitative experiences of distress and the sources of their symptoms. This study aimed to extend quantitative research to qualitatively explore: 1) the psychological symptoms associated with maternal perinatal distress during the COVID-19 pandemic; and 2) the associated psychosocial stressors, in order to guide future preventative and supportive interventions.

Methods: As part of an online survey during May 2020, 424 perinatal women completed an open-ended question regarding a recent experience of distress. Qualitative data was analysed using inductive thematic analysis from a realist stance and explored in the context of perinatal anxiety and depression scores.

Results: Thematic analysis of the data identified thirteen distinct symptom-related themes of psychological distress. Despite the high rates of probable depression in the sample, women's descriptions of symptoms were more indicative of anxiety and general distress, rather than those traditionally related to depression. Furthermore, qualitative experiences of distress differed between pre- and postnatal women. In terms of the associated psychosocial stressors, six themes emerged. Three were related to COVID-19, and three described general motherhood experiences unrelated to the pandemic context. Psychological conflict between maternal expectations and the reality of pregnancy and motherhood, and fears surrounding family health, safety, and wellbeing underlay many of the themes.

Conclusions: Interventions to support perinatal wellbeing may benefit from a transdiagnostic approach focusing on a multitude of symptoms, particularly those associated with anxiety and general distress. Support should also aim to develop healthy expectations of perinatal experiences, as well as provide psychoeducation to alleviate fears in pregnancy and early motherhood to help reduce maternal distress. This paper also highlights some of the traumatic COVID-related stressors which should be addressed to reduce enduring and recurrent episodes of trauma whilst presenting various opportunities to better support perinatal women should future pandemic restrictions be required.

Background

Pregnancy and childbirth represent major transitions in a woman's life, increasing vulnerability to emotional distress [1]. Prior to 2020, approximately 25% of mothers experienced a psychological 'disorder' such as anxiety or depression during pregnancy or the year following childbirth [2], however research found rates increased during COVID-19 [3, 4]. In the UK, the prevalence of clinically significant perinatal depression symptoms was reported to have reached 43–49%, whilst rates of anxiety symptoms were 49–61% [5–7], far higher than the global pooled prevalence during the pandemic of 25.6% for

depression and 30.5% for anxiety symptoms [4] .There is considerable comorbidity between symptoms of perinatal anxiety and depression [8], both of which are reported to negatively affect mother and child wellbeing with a combined cost to the UK of approximately £6.6 billion per year (reported prior to the COVID-19 pandemic [9]). Researchers have predominantly used quantitative methods to investigate the prevalence and risk factors associated with clinically relevant symptoms. Accordingly, the qualitative experiences of anxiety, depression, and more general psychological distress during the perinatal period are less understood. However, drawing on the lived experiences of women who have faced perinatal mental health (PMH) difficulties is necessary when creating preventative and supportive interventions to reduce the prevalence, severity, and long-term implications of symptoms. Such interventions require consideration of diverse psychosocial factors which influence perinatal experiences and can only be fully understood through a combination of quantitative and qualitative research.

Fallon et al [5] revealed a large gap between prevalence and diagnostic rates in their UK sample, suggesting many of those suffering may not have received the diagnosis required to access psychological support. This prevalence-diagnosis gap was most notable with anxiety and may be the result of stigma associated with disclosure [10–13], and/or because current diagnostic criteria for perinatal anxiety may not be appropriate [14, 15]. Furthermore, as a disproportionate amount of PMH information, support and screening tools focus solely on postnatal depression, perinatal women may struggle to identify symptoms associated with other psychological disorders [13, 16]. Increased understanding of perinatal women's experience of psychological distress may help to guide information and criteria used to identify women in need of support. Indeed, a systematic review and meta-synthesis of studies in the UK reported barriers to PMH support existing on four levels: individual, organisational, sociocultural, and structural [17]. A lack of understanding of signs and symptoms of PMH difficulties were reported amongst healthcare professionals, perinatal women, and family members, and symptoms were often dismissed as normal perinatal experiences. As such, when considering how support is provided, it may be more fruitful to focus on more relatable and transdiagnostic constructs that are independent of diagnosis, such as 'distress' [16, 18, 19]. Regardless of the terminology adopted, negative effects of clinical and subclinical level PMH difficulties on mother-child interactions (e.g., [20–22]) and long-term adverse consequences for the child (e.g., [23–25]) underpin the need for greater understanding of the qualitative nature of perinatal distress and sources which may trigger such experiences.

An accumulation of factors is theorised to increase susceptibility to PMH difficulties [26]. However, little is known about the specific events and experiences which may trigger psychological distress. The COVID-19 pandemic introduced an array of stressors likely to increase the risk of PMH difficulties [27–29] and evidence is gradually emerging to support these early predictions. For example, fear of contracting the virus and its consequences presented a particular worry for pregnant women, who were initially considered more 'vulnerable' to COVID-19 than the general population [30–33] Furthermore, women faced uncertainty around perinatal care [5, 32, 34, 35], Health Visitors were redeployed in some parts of the UK, and many families reported not experiencing the perinatal care that they had expected [35, 36]. Lockdown instigated to limit transmission of the virus resulted in extended periods of physical and social isolation,

preventing access to many forms of support, and leaving co-parents excluded from attending antenatal appointments or visiting mothers during postpartum hospital admissions [28, 32, 34, 37].

A perceived lack of social support has been repeatedly associated with increased risk of perinatal psychological disorders (e.g., [38, 39]) which may, in part, explain increased rates of distressing psychological symptoms during the pandemic [6, 7]. Another explanation may be rooted in the mismatch between maternal expectations and reality. Unmet maternal expectations have previously been associated with increased perinatal psychological distress outside of the context of COVID-19 [13, 18]. Unattainable idealised expectations of childbirth and social norms in early motherhood [13], and unrealistic beliefs about postnatal care often reported by first-time mothers [40] may underlie this association. Furthermore, a range of distressing experiences common to the transition to motherhood, including difficulties coping with increased demands and challenges, changes to relationships and the social context, and adapting to becoming a mother, may also contribute to maternal distress [41].

While the prevalence of PMH difficulties has increased during COVID-19 [3–5], the extent to which the context of the pandemic has exacerbated existing challenges or presented new sources of psychological distress to women in the UK remains unknown. And although a small number of qualitative studies of perinatal mental wellbeing have been published globally during the pandemic, it is difficult to draw comparisons across countries given that government responses to COVID-19 have varied greatly. To our knowledge, the qualitative research conducted in the UK has, so far, focused on very specific aspects of perinatal experiences (e.g., [37, 42]). The current study qualitatively explores broad descriptions of personal experiences of perinatal distress during the first UK lockdown. As well as adding to the small volume of qualitative research describing symptoms of perinatal distress (e.g., [16]), identifying symptom patterns uniquely experienced during the pandemic is valuable to the development of interventions aimed at reducing the long-term implications of COVID-specific perinatal distress. For example, previous literature [13, 16, 17] has noted that a greater understanding of context-specific symptoms is necessary to appropriately target support. Furthermore, analysing individual descriptions of distressing experiences for commonly occurring sources of distress should produce evidence to guide the effective targeting of preventative interventions and support women with enduring distress related to the trauma experienced during the pandemic.

We conducted a thematic analysis of data from an open-ended survey question embedded within a large online mixed-methods survey of 456 perinatal women in the UK during the COVID-19 pandemic. Descriptions of distressing experiences were analysed with two aims: 1) to qualitatively explore the psychological symptoms associated with maternal perinatal distress in the context of COVID-19; and 2) to reveal the sources of distress most salient to perinatal women during the pandemic.

Methods

Design

Qualitative surveys are useful for investigating under-explored phenomena due to their ability to efficiently capture meaningful data relating to diverse individual experiences from large samples [43]. The anonymous nature of online surveys is particularly beneficial when addressing sensitive topics, reducing social desirability biases and fear of stigma. We therefore reasoned that a qualitative survey may increase disclosure of symptoms and encourage previously unexpressed details of distressing experiences to be shared.

Participants and procedure

A convenience sample of 456 perinatal women was recruited through social media, forums, and companies, and via the participant recruitment service Prolific. Inclusion criteria specified women were: 1) pregnant or within 12 months postpartum; 2) aged 18-years and over; 3) living in the UK; and 4) fluent in English. All participants who completed the questionnaire were entered into a prize draw for one of three £20 Amazon vouchers.

Participants anonymously completed the online questionnaire in May 2020. A subset of 424 women (93%) responded to the following open-ended question, providing data for this analysis:

We want to better understand how people experience mental health issues in the perinatal period, as this may help us to learn how to better support women at this time. To do this, we want you to think about the last time you felt especially distressed or upset. Briefly describe this situation in terms of what happened (i.e., what was the reason for your distress or upset) and what you did.

All participants reported demographic data and completed a range of standardised self-report measures. Only demographic information and measures of depression and anxiety (described below) were considered in this analysis. Results are displayed in Table 1. The remaining data obtained from the survey are published separately [6, 7].

Table 1
Demographic information

	Pregnant women (*N* = 190)	**Postnatal women (*N* = 234)**
	N (%)	*N* (%)
Age		
18–24	12 (6.3)	10 (4.3)
25–34	121 (63.7)	150 (64.1)
35–44	57 (30.0)	74 (31.6)
Education		
None	2 (1.1)	1 (0.4)
GCSEs or equivalent	12 (6.3)	15 (6.4)
A Levels or equivalent	37 (19.5)	43 (18.4)
Undergraduate degree	70 (36.8)	92 (39.3)
Postgraduate degree	65 (34.2)	79 (33.8)
Other	3 (1.6)	4 (1.7)
Relationship		
Married or cohabiting	182 (95.8)	227 (97.0)
Single	4 (2.1)	4 (1.7)
Non-cohabiting partner	3 (1.6)	3 (1.3)
Living arrangements		
Living alone		1 (0.4)
Living alone with child/ren	4 (2.1)	6 (2.6)
Live with partner and child/ren	103 (54.2)	224 (95.7)
Live with partner and no children	77 (40.5)	3 (1.3)
Live with parents and/or siblings	4 (2.1)	
Live with partner and extended family	2 (1.1)	
Employment		
Full-time employment	79 (41.6)	24 (10.3)
Part-time employment	35 (18.4)	21 (9.0)

	Pregnant women (*N* = 190)	Postnatal women (*N* = 234)
Self-employed	11 (5.8)	13 (5.6)
Studying	4 (2.1)	1 (0.4)
On maternity or sick leave	10 (5.3)	151 (64.5)
Furlough	22 (11.6)	2 (0.9)
Not in paid employment	20 (10.5)	22 (9.4)
Ethnicity		
Any White background	171 (90.0)	221 (94.4)
Mixed, or multiple ethic groups	8 (4.2)	4 (1.7)
Asian, or Asian British	6 (3.2)	6 (2.6)
Black African, Black Caribbean, or Black British	4 (2.2)	2 (0.8)
Any other ethnic group	1 (0.5)	1 (0.4)
Recruitment		
Social media	138 (72.6)	181 (77.4)
Prolific	52 (27.4)	53 (22.6)
Trimester		
1st	65 (34.2)	
2nd	64 (33.7)	
3rd	61 (32.1)	
Months since childbirth		Mean (SD) 6.32 (3.38)

Measures

The *Edinburgh Postnatal Depression Scale (EPDS)* is a 10-item self-report measure of perinatal depressive symptoms [44]. Scores range from 0–30, with scores ≥ 13 considered to reflect probable depression in the context of research. Cronbach's α = 0.87, indicating high reliability [44].

The *Perinatal Anxiety Screening Scale (PASS)* is a 31-item measure of perinatal anxiety symptoms [45]. Scores range from 0–93 with scores ≥ 26 suggesting probable anxiety. Furthermore, scores between 21–41 indicate mild-moderate anxiety, and scores between 42–93 suggest severe symptoms [46]. It possesses excellent construct validity and reliability (Cronbach's α = 0.96; [45]).

Data analysis

Data from the open-ended survey question were analysed using inductive thematic analysis from a realist stance following Braun and Clarke's [47] guidelines. Simple semantic codes based on key words and phrases within the data were generated, maintaining focus on participants' own expressions. These were discussed between authors to confirm they were appropriately represented in the data. From this stage, two distinct analyses were conducted to address the separate research aims. Patterns were identified within the data and codes were reduced to meaningful categories. A thematic map was developed which guided the creation of themes and subthemes. These were continuously refined, taking care to give each extract equal priority and avoid a limited number of vivid examples influencing the analysis. Quotations were reviewed in the context of the entire participant response to ensure they retained their original meaning. Not all participants provided data relevant to both analyses, and some provided multiple meaningful expressions contributing to several themes in a single analysis. Symptoms were broadly defined as expressions of distress, which included common feelings and behaviours outlined by the literature, while sources were the actual or perceived *causes* of the symptoms. However, we acknowledge that these definitions are not always mutually exclusive.

Throughout the analytic process, themes and subthemes were discussed between authors to improve reliability, reduce the influence of individual bias, and together develop an accurate and convincing story from the data. Authors practiced self-reflection and took care to bracket their professional interests and personal perinatal experiences to ensure participants' voices were always prioritised.

Following complete thematic analysis, the prevalence of each theme and subtheme was explored within the antenatal and postnatal sub-samples to investigate differences between the two groups.

Results

1. Psychological symptoms associated with maternal perinatal distress

Of 424 women who completed the open-ended survey question, 73% (N = 310; 45% prenatal, 55% postnatal) described psychological symptoms associated with their experience of distress. Quantitative measures (Table 2) revealed that almost two-thirds of respondents scored in the clinical range for anxiety or depression (EPDS ≥ 13 and/or PASS ≥ 26). Combining this number with the respondents scoring in the subthreshold range (EPDS 10–12 and/or PASS 21–25) shows that more than three-quarters of the sample were probably experiencing some form of psychological distress.

Table 2
Anxiety (PASS) and Depression (EPDS) symptom scores

	Pregnant women **(*N* = 141)**	**Postnatal women** **(*N* = 169)**
	N (%)	*N* (%)
Clinically concerning depression symptoms (EPDS ≥ 13)	68 (48.2)	84 (49.7)
Clinically concerning anxiety symptoms (PASS ≥ 26)	74 (52.5)	88 (52.1)
Comorbid clinically concerning anxiety and depression symptoms (EPDS ≥ 13 and PASS ≥ 26)	53 (37.6)	64 (37.9)
Clinically concerning anxiety or depression symptoms (EPDS ≥ 13 and/or PASS ≥ 26	89 (63.1)	109 (64.5)
Subthreshold symptoms of anxiety or depression (EPDS 10–12 and/or PASS 21–25)	20 (14.2)	26 (15.4)
Mild to moderate perinatal anxiety symptoms (PASS 21–41)	69 (48.9)	74 (43.8)
Severe perinatal anxiety symptoms (PASS 42–93)	27 (18.1)	37 (21.9)

Thirty-seven percent of the respondents included in this analysis contributed to more than one theme. Thematic analysis revealed thirteen symptoms, detailed in Table 3 and listed in order of prevalence within the combined perinatal dataset. We report the prevalence of each theme amongst all respondents, and for the prenatal and postnatal sub-samples separately.

Table 3
Psychological symptoms associated with maternal perinatal distress

Symptom	Example	Percentage (n) of prenatal women N = 141	Percentage (n) of postnatal women N = 169	Percentage (n) of perinatal women N = 310
Upset and tearful*	I was very distressed and upset (P40)	41 (58)	56 (77)	44 (135)
Worry and overthinking	I overthink what might happen (P18)	28 (39)	26 (44)	27 (83)
Fearful and scared	Overwhelming fear (A165)	16 (22)	10 (17)	13 (39)
Guilt, failure, self-blame, and inadequacy	Felt like failure at work and failure at looking after baby (A94)	8 (11)	14 (24)	11 (35)
Anxiety and nervousness	I am very anxious and nervous (A17)	11 (16)	10 (17)	11 (33)
Stressed	I was stressed (A7)	11 (15)	8 (14)	9 (29)
Frustrated, agitated, and disappointed	Felt agitated (A89)	9 (13)	7 (12)	8 (25)
Panic	It's like I'm screaming on the inside, like I'm rushing, panicked (P116)	7 (10)	7 (11)	7 (21)
Overwhelmed and unable to cope	Didn't feel able to cope (…) felt overwhelmed (A58)	5 (7)	7 (12)	6 (19)
Sad and low	I woke up just feeling generally down (A77)	8 (11)	4 (6)	5 (17)
Angry, irritated and on edge	I got angry and snapped more than I usually would (P13)	3 (4)	6 (10)	5 (14)
Nightmares and intrusive thoughts	Yeah has a nightmare about my baby dying (P50)	5 (7)	3 (5)	4 (12)
Loss and grief	I felt a sense of loss and grief (P107)	0 (0)	2 (4)	1 (4)

*The theme *upset and tearful* may be over-represented due to the wording of the survey question

Feeling upset and tearful was most frequently cited as a symptom of distress and repeatedly occurred alongside a constellation of other symptoms (Table 3). In this way, crying can be seen as a general

expression of distress, rather than necessarily being related to a specific psychological disorder. While it may seem plausible that crying was related to feeling low (or depressed feelings), this was not borne out in the description of symptoms. Instead, combinations of symptoms were common, with women often reporting crying after experiencing other strong indicators of distress, such as fear, anger, irritation, and frustration. For example, conflict between feelings of frustration at living in social isolation and anxiety about social contact led this woman to cry:

'*I was also feeling frustrated that I have been in the house for 2 months but I'm anxious about being around people. I just laid on the sofa crying for ages.'* (A167)

Interestingly, despite EPDS and PASS scores suggesting almost half of the participants in this sub-sample were likely experiencing depression (EPDS ≥ 13) and anxiety (PASS ≥ 26), feelings commonly associated with depression such as feeling sad, low, or withdrawn were relatively uncommon in comparison to symptoms more readily associated with anxiety (such as nervousness, worry, overthinking and fear). Indeed, worry and overthinking was the second-most prevalent symptom theme reported by participants. Interestingly, the subject of these worries predominantly focused on present or future concerns rather than overthinking about past experiences (i.e., rumination). This was not surprising, given the uncertainty about the future that surveyed women were facing, both in terms of the transition to motherhood and the COVID-19 pandemic. However, whether worry is necessarily indicative of anxiety in these participants is difficult to ascertain, as repetitive negative thinking is evident across an array of emotional disorders [48]and has been repeatedly linked to depression and other mental health issues. Therefore, it may be better conceptualised as a transdiagnostic indicator of psychological distress in this population. Regardless, anxiety and nervousness were also highlighted as a symptom of distress, and in some cases anxious feelings were extreme, described in terms of 'panic' (P140) and feeling 'terrified' (A155) or 'petrified' (A134). For a small but concerning number of women worry or overthinking was related to nightmares and intrusive thoughts, most often related to fears for the baby (Table 3) or previous trauma, for example: '*Reliving traumatic premature birth of first child and worrying that this pregnancy will also result in premature birth and time spent in NICU.'* (A131).

Another important symptom of distress was guilt, which was most apparent amongst postnatal mothers and commonly associated with feelings of *'not being a good mum'* (P89) or *'not doing enough'* (P209). Again, these feelings often arose alongside other symptoms. In this example, frustration developed into a sense of inadequacy, followed by crying and symptoms of panic:

'The baby not settling to sleep the night before and feeling frustrated with the baby and my partner, the next day I felt very panicked about not being a good mum and not being as productive as others during lock down. I cried in front of my partner and got a bit short of breath/panicked but quickly calmed down.' (P89)

Several quotes also conveyed a general sense of overwhelm as characterising their distress, which may have been exacerbated in the pandemic situation. In some cases, symptoms were directly related to the

COVID-19 context, with a small number of women reporting a sense of grief at the loss of the pregnancy and motherhood experience they had been expecting prior to the pandemic.

2. Salient sources of perinatal distress during the COVID-19 pandemic

Of the 424 participants who responded to the open-ended survey question, 89% (N = 377; 43% prenatal, 57% postnatal) attributed their distress to a specific experience. Seventeen percent of these contributed to more than one source theme. Thematic analysis yielded six themes and sixteen subthemes, detailed in Table 4 in order of prevalence within the combined perinatal dataset.

Table 4
Themes and subthemes describing salient sources of maternal perinatal distress reported during the COVID-19 pandemic

Theme	Subtheme	Example	Percentage (n) of prenatal women N = 163	Percentage (n) of postnatal women N = 214	Percentage (n) of perinatal women N = 377
COVID-related restrictions and the conflict with expectations					
	Isolation and a lack of social support	When baby is crying for long periods of time (teething or over tired) I feel trapped in the house and desperately need some outside support from family. I often get myself very worked up that my family are missing out on my son's life (P163)	13 (21)	18 (38)	16 (59)
	Psychological restrictions: lack of autonomy and control	A couple of weeks into lockdown I had a meltdown and burst into tears. I just felt overwhelmed with all the sudden change, mixed with pregnancy hormones, and the loss of control over my situation. (A127)	4 (7)	1 (3)	3 (10)
	Restrictions on movement and 'non-essential' activities	When we went into lockdown for covid19. I felt a sense of loss and grief for all the things I was no longer able to do with my baby, going to get him weighed, taking him swimming etc. (P107)	12 (19)	6 (12)	8 (31)

Theme	Subtheme	Example	Percentage (n) of prenatal women N = 163	Percentage (n) of postnatal women N = 214	Percentage (n) of perinatal women N = 377
	Restrictions in perinatal care	At the first scan for our pregnancy, my husband was not allowed to even come in the hospital. Whilst I completely understood the rules, I am very anxious and nervous in hospitals at the best of times and would have loved his support. I was also incredibly sad that he missed such an important moment and couldn't be there. I found being at the hospital daunting and because it was all unknown, I was very anxious and upset. (A17)	15 (24)	2 (5)	8 (29)
The impact of the pandemic on family wellbeing					
	Concerns for the family's health and safety during the pandemic	I frequently worry about either my baby catching covid and being ill or myself catching it and dying. The thought of leaving her to grow up without a mother stops me sleeping. (P41)	16 (26)	17 (36)	16 (62)
	The unknown long-term implications of social isolation	Even though my child is only a year old all the recent changes due to the pandemic have made me worry that she is perhaps not getting enough socialization and that that could impact him further down the line. (P32)	2 (4)	2 (5)	2 (9)
Disruption to work and family life during the pandemic					

Theme	Subtheme	Example	Percentage (n) of prenatal women N = 163	Percentage (n) of postnatal women N = 214	Percentage (n) of perinatal women N = 377
	Competing demands on time	Felt really overwhelmed trying to home school my reception aged son and look after my premature newborn baby (P83)	6 (10)	9 (19)	8 (29)
	Work and finances	Household item broke. Got very upset trying to fix it. Started to worry that husband being furloughed and not being able to afford new one I would have to return to work early from my maternity leave. (P142)	4 (6)	2 (5)	3 (11)
Pregnancy and obstetric concerns (unrelated to the pandemic)					
	Obstetric complications	I was distressed as my blood pressure had gone very high, very suddenly and was told by a Doctor baby could be in danger and I would need to deliver within the next 24 hours. This upset me as I didn't feel ready and wasn't prepared to be told I had high blood pressure. (A18)	10 (17)	4 (8)	7 (25)
	Fears for the pregnancy and birth	Reliving traumatic premature birth of first child and worrying that this pregnancy will also result in premature birth and time spent in NICU. (A131)	13 (21)	< 1 (1)	6 (22)
Mothering challenges (unrelated to the pandemic)					

Theme	Subtheme	Example	Percentage (n) of prenatal women N = 163	Percentage (n) of postnatal women N = 214	Percentage (n) of perinatal women N = 377
Fear for the infant's health, safety and wellbeing	The fear of SIDS still scares me even 10 months down the line and despite knowing I have done everything to prevent it. I overthink what might happen and why and check on the baby regularly to ease my worry. This can include images of him being dead. (P18)	1 (1)	19 (41)	11 (42)	
Unsupportive relationships	I sometimes feel like my husband doesn't appreciate what I do around the house. He gets frustrated at me and that upsets me. (A143)	10 (17)	11 (23)	11 (40)	
	Infant crying and sleep deprivation	Baby crying all day and I could not comfort him or calm him down. (P163)	0	16 (34)	9 (34)
	Difficulty achieving personal mothering expectations	Too many tasks/chores to do, whilst looking after baby and get upset at not keeping on top of things, plus constant stressing that I'm not doing enough with my baby. (P168)	7 (12)	10 (21)	9 (33)
Work and financial concerns (unrelated to the pandemic)					

Theme	Subtheme	Example	Percentage (n) of prenatal women N = 163	Percentage (n) of postnatal women N = 214	Percentage (n) of perinatal women N = 377
	Work stress	I felt a bit numb as I was anxious about my imminent return to work. (P151)	6 (10)	1 (3)	3 (13)
	Financial worries	Difficulty sleeping last night because of worrying about financial/housing issues when the baby arrives. (A16)	2 (3)	0	1 (3)

Three of the six themes directly related to the COVID-19 pandemic, although it must be acknowledged that all participant's experiences were inextricably linked to the pandemic context given the timing of the study.

COVID-specific sources of distress

COVID-specific restrictions (e.g., lockdown, reduced access to support, disruptions to perinatal care) had a disproportionate effect on the prenatal sub-sample, largely due to the impact of restrictions on prenatal care and 'non-essential' activities (such as antenatal groups). Prenatal women repeatedly expressed distress resulting from the ban on partners attending routine antenatal appointments, particularly scans. This represented a significant reduction in their perceived support, and many women worried how they would cope if they received bad news at scans alone.

'Woke up in the night, couldn't get back to sleep worrying about whether the baby was ok and what I would do if they told me that the baby wasn't ok at the scan but my husband wasn't there' (A71).

Other women voiced concern over the impact that excluding partners from the antenatal processes may have on paternal bonding with the unborn baby, for example: *'I feel alone in the pregnancy as I am unable to take my husband to any scans, I feel worried he won't bond with his child as he can't be a part of pregnancy.' (A122)*

Several postnatal women also reported distress resulting from COVID-related changes to their care. Many reported being alone in hospital following the birth of their baby, and how 'lonely' and 'unsupported' they felt as a result: *'This escalated my anxiety and made the birth experience extremely stressful as I was in hospital for a number of days before and after the birth but couldn't have my partner with me.'* (P212)

Women reported struggling with the loss of autonomy resulting from the COVID restrictions and many found their experiences conflicted with their expectations of early motherhood: '*I found the essential loss of my maternity leave as I knew and expected it to be very upsetting'* (P235). For some, isolation

amplified many typical mothering challenges, whilst others reported the isolation itself to be their most salient source of distress:

New baby not able to have cuddles from grandparents and support for myself. I got upset when he was uncontrollably crying. It can get too much when there's just me and my husband. If I had my mum who could just come and simply rock my little boy or reassure me that would help massively. (P133)

Fear of the long-term implications of social isolation on their child's development was expressed, as were immediate concerns about contracting the virus (Table 4). With schools and childcare settings closed, and homeworking forced upon many, women frequently struggled to juggle home and work life and felt overwhelmed by the competing demands on their time. Postnatal women described difficulties in caring for a new-born whilst home-schooling older children. Although some benefitted from their partner working from home, others found this added to their difficulties: '*Baby failing to settle, other child crying, husband complaining as he was trying to work from home.'* (P118)

Sources of distress unrelated to the pandemic

Pregnancy and obstetric concerns unrelated to the pandemic presented a significant source of distress to many prenatal women and remained salient to a small number of the postnatal subpopulation (Table 4). Fears for the pregnancy were frequently associated with a fear of miscarriage and often reinforced by previous experiences of pregnancy loss, whilst 'Obstetric complications' described an array of problems faced during their pregnancy or the immediate postpartum period, such as 'bleeding in pregnancy' (A183), 'pre-eclampsia' (A125) and 'gestational diabetes' (A114).

Mothering challenges unrelated to the pandemic were the most frequently cited source of distress amongst the postnatal sub-sample. The nature of these challenges varied but fell broadly into four subthemes. The majority were related to fears for the infant's wellbeing, some of which were grounded in previous personal experiences, whilst others were of hypothetical situations (Table 4). Equal numbers reported themes of 'infant crying and sleep deprivation', and 'difficulty meeting mothering expectations'. Women struggled to cope with the demands of an unsettled child, and frequently described distressing guilt in their failure to manage their own frustration: '*I got really frustrated and shouted at her and then started crying because I felt I was a horrible mother not able to even give my child a routine. Then I felt horrible because I snapped at her.'* (P82).

Unsupportive relationships were also a frequent source of distress unrelated to the pandemic (Table 4). Many women felt underappreciated and undervalued by their partner, leading to *'tension and arguments'* (A79). Some women expressed distress resulting from unsupportive relationships with other family members and friends, however this was far less common, and the associated emotions were typically less concerning.

A final theme highlighted sources of distress related to work and finances, predominantly experienced by the prenatal sub-sample. It is unsurprising that this source of distress was more frequently reported by

prenatal women, given that many postnatal women were not working at the time of responding to the survey (Table 1).

Discussion

Our qualitative exploration shed new light on women's experiences of perinatal psychological distress during the COVID-19 pandemic. We now consider our synthesised findings in relation to previous research to identify some key psychological indicators of perinatal distress and highlight opportunities to support perinatal women within and beyond the COVID-19 pandemic.

Identifying perinatal distress

In keeping with previous research [16], tearfulness was the most expressed symptom associated with distress, experienced by almost half of participants. Anxious-type symptoms of 'worry and overthinking', 'fear', 'anxiety and nervousness', and 'panic', were, when combined, also apparent in more than half of respondents. This was not surprising given PASS scores suggested a similar proportion of the sample had clinically significant anxiety symptoms. 'Worry and overthinking' was the second most reported symptom theme, in contrast with previous evidence of 'worry and fear' being among the least prevalent symptoms of perinatal distress [16]. This may reflect the context of the pandemic, as several COVID-specific factors may have increased the salience of worry in the present sample (e.g., [27, 49]), or could equally be the result of methodological differences. For example, Coates et al. [16] analysed a small number of in-depth interviews, providing opportunity for an array of symptoms to be expressed; in comparison, survey questions (as used in the present study), typically prompted a brief response. Furthermore, Coates et al. treated 'overthinking' as an independent theme and clustered 'worried' with 'scared' which produced their least reported symptom theme. Had they combined worry and overthinking as we did, they may have found a similar prevalence. Finally, it is notable that prenatal women were not included in Coates et al.'s research. Fear was indeed less commonly reported amongst postnatal women than prenatal women in our analysis.

In our prenatal subsample, fear was common and typically associated with pregnancy-specific experiences, such as the fear of miscarriage. It has been suggested that pregnancy anxiety should be recognised as a unique construct [50, 51], and the present findings suggest there may be some benefit to this. Whilst the prenatal and postnatal sub-samples contained a similar proportion of participants scoring above the threshold for perinatal anxiety and depression, their qualitative experiences of distress differed. For example, guilt, frustration and feeling overwhelmed were all more commonly reported by postnatal women. Such differences have important clinical implications. Not only do they highlight the need for screening tools which assess the distinctive experiences of distress for women in the prenatal versus postnatal periods, they also suggest that pregnant and postnatal women may benefit from individual therapeutic intervention programmes specifically targeting the symptoms most distressing to them.

Despite the known comorbidity of perinatal anxious and depressive symptoms [8], and the prevalence of clinically relevant depressive symptoms in the present sample (Table 2), women's descriptions of distress

gravitated towards feelings typically associated with anxiety, as well as transdiagnostic symptoms of distress, rather than those traditionally related to depression. This reinforces the proposal that it may be more appropriate to focus on broader experiences of perinatal distress than address the two disorders separately in perinatal populations [16, 18]. Furthermore, although not part of the main analysis in this study, a post-hoc comparison revealed all of our themes were prevalent amongst women with both clinically relevant levels of anxiety and/or depression. It is also vital that screening tools capture the full range of distress, including anxiety-related symptoms, as even subclinical symptoms have been reported to impact mother and infant wellbeing (e.g., [21, 52]), we therefore recommend that all symptom themes be considered when screening for clinically concerning psychological symptoms.

Sources of perinatal distress

Six themes and sixteen sub-themes captured the psychosocial stressors that perinatal women associated with the abovementioned feelings of distress. Three COVID-specific themes broadly echoed findings from elsewhere in the world during the pandemic (e.g., [30–33]), whilst a further three themes described more generic perinatal triggers. Meaney et al. [32] reported an array of factors to have increased stress amongst pregnant women across multiple geographical locations during the pandemic. Just over ten percent of their sample were from the UK, and most of their participants were in the USA or Ireland. Despite this, many similarities were apparent between their findings and the present analysis, highlighting some of the shared experiences faced by pregnant mothers throughout Western populations.

Thematic analysis revealed shared psychological phenomena underlay many of the psychosocial stressors attributed to distress. For example, the sense of conflict between expectations of pregnancy or motherhood and reality, and an associated guilt for not achieving expected mothering standards, was observed across multiple themes and in relation to both COVID-specific stressors, as well as general perinatal experiences. These findings are consistent with the results of previous qualitative research which have attributed unrealistic expectations of motherhood, and guilt and self-blame, to psychological difficulties in the postnatal period [13, 18, 53]. This also fits with quantitative evidence of maladaptive beliefs towards motherhood increasing the risk of perinatal anxiety and depressive symptoms [54–56], and the reported relationship between dysfunctional perfectionism and postnatal distress [57]. As such, interventions to manage misconceptions around mothering ideals and better prepare women for the challenges of pregnancy and motherhood, such as infant crying and sleep deprivation, may be helpful in reducing perinatal distress.

When pregnancy fears were reported by the present sample, they were often associated with unresolved trauma of historic obstetric events, such as miscarriage and pregnancy complications. As such, interventions aimed at supporting individuals with a known history of pregnancy and birth complications are recommended. Research suggests the unique concept of Childbirth-Related Post-Traumatic Stress Disorder (CR-PTSD), and secondary Tokophobia [58, 59] should also be considered. Improved postnatal debriefing may help to identify problems before subsequent pregnancies, reducing the risk of future perinatal distress. The present findings contribute to a large body of evidence pertaining to pregnancy-

specific anxiety (e.g., [50, 51, 60]), suggesting improved availability of support and information around specific fears for the pregnancy and infant wellbeing may alleviate some distress not necessarily related to previous experiences. Themes also revealed the importance of co-parents in supporting women through pregnancy, particularly where specific pregnancy fears were described, reinforcing the need to include co-parents in perinatal primary care.

This research enriches understanding of the role social relationships play in supporting PMH (e.g., [6, 7, 38, 39, 61–63]). At the time of data collection, lockdown restrictions in place to mitigate the spread of COVID-19 forced families into physical social isolation. Being unable to spend time with friends and extended family was commonly attributed to feelings of psychological distress, particularly within the postnatal subsample. Many postnatal women had expected to spend considerable amounts of time with their family and friends during maternity leave and expressed concerned regarding lost opportunities for their infant to build relationships with their wider family, again pointing to the impact of discrepancies between expectations and reality. This echoed concerns surrounding the loss of social support, bonding rituals, and traditional birth celebrations reported in research conducted in Australia [30] and the USA [31].

Although many women in the present study spoke positively about their pre-COVID experiences of social support, and social support was positively associated with maternal psychological wellbeing (e.g., [6, 7]), it is important to note that not all women described beneficial social relationships. Some attributed distress to interactions with family and friends, and more commonly, their partner. This accords with evidence of relationship dissatisfaction being a significant risk factor for perinatal distress [64–67]. Furthermore, although not disclosed in the present dataset, domestic violence is reported to have increased during the COVID-19 pandemic [68, 69] and should always be considered in practice when women disclose distress associated with close relationships.

Implications

Interventions to support women in developing healthy expectations of perinatal experiences may help to reduce perinatal psychological distress. This could take many forms; however, peer support may be particularly effective. The peer support model is substantiated by evidence that support from friends (not family or significant others) was associated with lower levels of postnatal anxiety and depression [6], and chatting with other mums was associated with reduced loneliness and anxiety in prenatal women [7]. Specific attention should also be paid to pregnancy related fears, particularly in women who have experienced previous obstetric trauma.

Should further restrictions be required to reduce transmission of COVID-19, policy makers should consider the distress associated with certain decisions, such as the exclusion of partners from perinatal care, the cancellation of antenatal classes and mother-baby groups, and the closure of childcare settings, and schools when calculating the risks versus benefits. The absence of antenatal classes is also likely to have made it difficult for women to gain accurate information regarding their perinatal experience.

Antenatal classes are known to benefit women in the preparation for motherhood and it may be that they could be adapted for online delivery should further social restrictions be necessary [70].

Finally, the present evidence points to areas requiring further research, most notably, the need to develop appropriate PMH screening tools capable of identifying the most commonly occurring symptoms of perinatal distress in perinatal primary care.

Strengths and limitations

When interpreting these findings, it is important to consider several limitations. Firstly, the self-selected sample lacked diversity and participants' responses may have been influenced by social-desirability biases. However, Braun et al. [43] point to the benefits of anonymous questionnaires when researching sensitive subjects, and Moore et al. [71] proposed that online data collection methods may encourage disclosure of PMH difficulties. Second, the single open-ended survey question provided limited access to women's experiences, although it allowed for inclusion of larger sample than many other qualitative methods which was a significant strength. Third, the framing of the question may not have prompted information desired to answer the specific research questions, particularly with regards to the expression of symptoms, but the indirect nature of the question prevented wording bias and allowed women to share the thoughts and experiences most salient to them. Fourth, researcher bias is always possible in qualitative studies, however prior awareness of these effects meant effort was made to contain biases. Finally, findings cannot be generalised beyond the context of the COVID-19 pandemic, nevertheless they are valuable when considering screening and interventions to address the ongoing distress experienced as the pandemic continues.

Conclusions

The findings have implications for the prevention, identification, and treatment of perinatal distress during the COVID-19 pandemic and beyond. Attention is drawn to a range of psychological symptoms of perinatal distress, many of which have been traditionally overlooked. Further research should explore the potential for current screening and assessment tools to effectively identify problematic levels of psychological distress in perinatal primary care. Exploration of psychosocial sources of perinatal distress revealed several COVID-specific themes which should be considered by those involved in planning restrictions to control future waves of the pandemic. Efforts should be made to maintain important sources of social support, and where possible, co-parents should be included in perinatal care, not considered 'visitors' during pregnancy, birth and the postpartum period. This study has also identified the influence of historic pregnancy-related psychological trauma on future pregnancies therefore individuals supporting perinatal women should be aware of the distress experienced during COVID-19 and reflect on how this may project onto future obstetric experiences. It is important that the present perinatal cohort receives support at the earliest opportunity to prevent enduring psychological distress and additional opportunities to 'debrief' may prove beneficial. Looking beyond COVID-19, strategies to support perinatal women in developing realistic motherhood beliefs and expectations should be encouraged and

opportunities for peer support should be prioritised to reduce feelings of guilt and failure which feed into experiences of perinatal psychological distress.

Abbreviations

CR-PTSD: Childbirth-Related Post-Traumatic Stress Disorder

EPDS: Edinburgh Postnatal Depression Scale

NICE: National Institute for Health and Care Excellence

PASS: Perinatal Anxiety Screening Scale

PMH: Perinatal Mental Health

PRAQ-R: Pregnancy-related Anxiety Questionnaire Revised

PrAS: Pregnancy-related anxiety scale

PSAS: Postpartum Specific Anxiety Scale

Declarations

Ethics approval and consent to participate

The study received ethical approval from the university's Human Research Ethics Committee. Overall and general guidance was taken from the British Psychological Society (BPS) 'Code of Human Research Ethics' [72], and the BPS 'Ethics Guidelines for Internet Mediated Research' [73] was adhered to for the screening procedure. Online informed consent was obtained from all participants and information regarding PMH support was presented at the beginning and end of the survey. Further safeguarding procedures were in place to support women who experienced increased distress during participation, including an automated message which appeared if responses indicated particularly high depression or anxiety symptom scores.

Consent for publication

Participants all provided written informed consent for the use of their anonymised data and quotes in resultant publications.

Availability of data and materials

Anonymised versions of the datasets used and analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests

Funding

Not applicable

Author's Contributions

VH designed the study, created the online survey, and obtained ethical approval. KJ conducted the first stages of thematic analysis. Codes and categories were reviewed and refined by VH and MM. Emerging themes were identified by KJ and regularly discussed between the three authors, all of whom contributed to the creation and interpretation of the final themes. Statistical analysis was conducted by KJ. All three authors contributed to and approved the final manuscript.

Acknowledgements

None

References

1. Moustafa AA, Crouse JJ, Herzallah MM, Salama M, Mohamed W, Misiak B, et al. Depression Following Major Life Transitions in Women: A Review and Theory. Psychol Rep. 2020;123:1501–17.
2. Howard LM, Ryan EG, Trevillion K, Anderson F, Bick D, Bye A, et al. Accuracy of the Whooley questions and the Edinburgh Postnatal Depression Scale in identifying depression and other mental disorders in early pregnancy. Br J Psychiatry. 2018;212:50–6.
3. Hessami K, Romanelli C, Chiurazzi M, Cozzolino M. COVID-19 pandemic and maternal mental health: a systematic review and meta-analysis. J Matern Neonatal Med. 2020;0:1–8. doi:10.1080/14767058.2020.1843155.
4. Tomfohr-Madsen LM, Racine N, Giesbrecht GF, Lebel C, Madigan S. Depression and anxiety in pregnancy during COVID-19: A rapid review and meta-analysis. Psychiatry Res. 2021;300 March:113912. doi:10.1016/j.psychres.2021.113912.
5. Fallon V, Davies SM, Silverio SA, Jackson L, De Pascalis L, Harrold JA. Psychosocial experiences of postnatal women during the COVID-19 pandemic. A UK-wide study of prevalence rates and risk factors for clinically relevant depression and anxiety. J Psychiatr Res. 2021;136:157–66. doi:10.1016/j.jpsychires.2021.01.048.
6. Harrison V, Moulds ML, Jones K. Support from friends moderates the relationship between repetitive negative thinking and postnatal wellbeing during COVID-19. J Reprod Infant Psychol. 2021;:1–16. doi:10.1080/02646838.2021.1886260.
7. Harrison V, Moulds ML, Jones K. Perceived social support and prenatal wellbeing; The mediating effects of loneliness and repetitive negative thinking on anxiety and depression during the COVID-19 pandemic. Women and Birth. 2021; xxxx. doi:10.1016/j.wombi.2020.12.014.

8. Falah-Hassani K, Shiri R, Dennis CL. The prevalence of antenatal and postnatal co-morbid anxiety and depression: A meta-analysis. Psychol Med. 2017;47:2041–53.
9. Bauer A, Knapp M, Parsonage M. Lifetime costs of perinatal anxiety and depression. J Affect Disord. 2016;192:83–90. doi:10.1016/j.jad.2015.12.005.
10. Folliard KJ, Crozier K, Wadnerkar Kamble MM. “Crippling and unfamiliar”: Analysing the concept of perinatal anxiety; definition, recognition and implications for psychological care provision for women during pregnancy and early motherhood. J Clin Nurs. 2020;29:4454–68. doi:10.1111/jocn.15497.
11. Forder PM, Rich J, Harris S, Chojenta C, Reilly N, Austin M-P, et al. Honesty and comfort levels in mothers when screened for perinatal depression and anxiety. Women Birth. 2020;33:e142–50. doi:10.1016/j.wombi.2019.04.001.
12. Moore D, Drey N, Ayers S. A meta-synthesis of women’s experiences of online forums for maternal mental illness and stigma. Arch Womens Ment Health. 2020;23:507–15.
13. Harrison V, Moore D, Lazard L. Supporting perinatal anxiety in the digital age; a qualitative exploration of stressors and support strategies. BMC Pregnancy Childbirth. 2020;20:363. doi:10.1186/s12884-020-02990-0.
14. Fairbrother N, Corbyn B, Thordarson DS, Ma A, Surm D. Screening for perinatal anxiety disorders: Room to grow. J Affect Disord. 2019;250:363–70. doi:10.1016/j.jad.2019.03.052.
15. Van Der Zee-Van den Berg AI, Boere-Boonekamp MM, Groothuis-Oudshoorn CGM, Reijneveld SA. The Edinburgh Postpartum Depression Scale: Stable structure but subscale of limited value to detect anxiety. PLoS One. 2019;14:1–11. doi:10.1371/journal.pone.0221894.
16. Coates R, de Visser R, Ayers S. Not identifying with postnatal depression: a qualitative study of women’s postnatal symptoms of distress and need for support. J Psychosom Obstet Gynaecol. 2015;36:114–21. doi:10.3109/0167482X.2015.1059418.
17. Smith MS, Lawrence V, Sadler E, Easter A. Barriers to accessing mental health services for women with perinatal mental illness: Systematic review and meta-synthesis of qualitative studies in the UK. BMJ Open. 2019;9.
18. Coates R, Ayers S, de Visser R. Women’s experiences of postnatal distress: A qualitative study. BMC Pregnancy Childbirth. 2014;14:1–14.
19. Coates R, Ayers S, de Visser R, Thornton A. Evaluation of the CORE-10 to assess psychological distress in pregnancy. J Reprod Infant Psychol. 2020;38:311–23. doi:10.1080/02646838.2019.1702631.
20. Lefkovics E, Rigó Jr J, Kovács I, Talabér J, Szita B, Kecskeméti A, et al. Effect of maternal depression and anxiety on mother’s perception of child and the protective role of social support. J Reprod Infant Psychol. 2018;36:434–48. doi:10.1080/02646838.2018.1475726.
21. Fallon V, Silverio SA, Halford JCG, Bennett KM, Harrold JA. Postpartum-specific anxiety and maternal bonding: Further evidence to support the use of childbearing specific mood tools. J Reprod Infant Psychol. 2019. doi:10.1080/02646838.2019.1680960.

22. Fallon V, Halford JCG, Bennett KM, Harrold JA. Postpartum-specific anxiety as a predictor of infant-feeding outcomes and perceptions of infant-feeding behaviours: new evidence for childbearing specific measures of mood. Arch Womens Ment Health. 2018;21:181–91. doi:10.1007/s00737-017-0775-0.
23. Kingston D, Tough S, Whitfield H. Prenatal and postpartum maternal psychological distress and infant development: A systematic review. Child Psychiatry Hum Dev. 2012;43:683–714.
24. Netsi E, Pearson RM, Murray L, Cooper P, Craske MG, Stein A. Association of persistent and severe postnatal depression with child outcomes. JAMA Psychiatry. 2018;75:247–53.
25. Rees S, Channon S, Waters CS. The impact of maternal prenatal and postnatal anxiety on children's emotional problems: a systematic review. Eur Child Adolesc Psychiatry. 2019;28:257–80. doi:10.1007/s00787-018-1173-5.
26. Biaggi A, Pariante CM. Risk factors for depression and anxiety during the perinatal period. In: Handbook of Perinatal Clinical Psychology. Routledge; 2020. p. 239–65.
27. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. Lancet. 2020;395:912–20. doi:10.1016/S0140-6736(20)30460-8.
28. Matvienko-Sikar K, Meedya S, Ravaldi C. Perinatal mental health during the COVID-19 pandemic. Women and Birth. 2020;33:309–10. doi:10.1016/j.wombi.2020.04.006.
29. O'Connor DB, Aggleton JP, Chakrabarti B, Cooper CL, Creswell C, Dunsmuir S, et al. Research priorities for the COVID-19 pandemic and beyond: A call to action for psychological science. Br J Psychol. 2020;111:603–29.
30. Chivers BR, Garad RM, Boyle JA, Skouteris H, Teede HJ, Harrison CL. Perinatal distress during COVID-19: Thematic analysis of an online parenting forum. J Med Internet Res. 2020;22:1–8.
31. Kinser PA, Jallo N, Amstadter AB, Thacker LR, Jones E, Moyer S, et al. Depression, Anxiety, Resilience, and Coping: The Experience of Pregnant and New Mothers during the First Few Months of the COVID-19 Pandemic. J Women's Heal. 2021;30:654–64.
32. Meaney S, Leitao S, Olander EK, Pope J, Matvienko-Sikar K. The impact of COVID-19 on pregnant womens' experiences and perceptions of antenatal maternity care, social support, and stress-reduction strategies. Women and Birth. 2021; xxxx. doi:10.1016/j.wombi.2021.04.013.
33. Taubman–Ben-Ari O, Chasson M, Abu Sharkia S, Weiss E. Distress and anxiety associated with COVID-19 among Jewish and Arab pregnant women in Israel. J Reprod Infant Psychol. 2020;38:340–8. doi:10.1080/02646838.2020.1786037.
34. Horsch A, Lalor J, Downe S. Moral and mental health challenges faced by maternity staff during the COVID-19 pandemic. Psychol Trauma Theory, Res Pract Policy. 2020;12:S141–2.
35. Silverio SA, Backer K De, Easter A, Dadelszen P Von, Magee LA, Sandall J, et al. Women ' s experiences of maternity service reconfiguration during the COVID-19 pandemic: A qualitative investigation. Women ' s experiences of maternity service reconfiguration during the COVID-19

pandemic : A qualitative investigation. Department of W. Midwifery. 2021;:103116. doi:10.1016/j.midw.2021.103116.

36. Best Beginnings UK, Foundation PI, Home-Start. Babies in Lockdown Report: Listening to Parents to Build Back Better. 2020.
37. Silverio SA, Davies SM, Christiansen P, Aparicio-García ME, Bramante A, Chen P, et al. A validation of the Postpartum Specific Anxiety Scale 12-item research short-form for use during global crises with five translations. BMC Pregnancy Childbirth. 2021;21:112. doi:10.1186/s12884-021-03597-9.
38. Milgrom J, Hirshler Y, Reece J, Holt C, Gemmill AW. Social Support-A Protective Factor for Depressed Perinatal Women? Int J Environ Res Public Health. 2019;16. doi:10.3390/ijerph16081426.
39. Asselmann E, Kunas SL, Wittchen HU, Martini J. Maternal personality, social support, and changes in depressive, anxiety, and stress symptoms during pregnancy and after delivery: A prospective-longitudinal study. PLoS One. 2020;15 8 August:1–19. doi:10.1371/journal.pone.0237609.
40. Alderdice F, McLeish J, Henderson J, Malouf R, Harvey M, Redshaw M. Women's ideal and real expectations of postnatal care during their first pregnancy: An online survey in England. Midwifery. 2020;89:102815. doi:10.1016/j.midw.2020.102815.
41. Emmanuel E, St John W. Maternal distress: a concept analysis. J Adv Nurs. 2010;66:2104–15.
42. Greenfield M, Payne-Gifford S, McKenzie G. Between a Rock and a Hard Place: Considering "Freebirth" During Covid-19. Front Glob Women's Heal. 2021;2 February:1–11.
43. Braun V, Clarke V, Boulton E, Davey L, McEvoy C. The online survey as a qualitative research tool. Int J Soc Res Methodol. 2020;00:1–14. doi:10.1080/13645579.2020.1805550.
44. Cox J, Holden J, Sagovsky R. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. Br J Psychiatry. 1987;150:1–2.
45. Somerville S, Dedman K, Hagan R, Oxnam E, Wettinger M, Byrne S, et al. The Perinatal Anxiety Screening Scale: development and preliminary validation. Arch Womens Ment Health. 2014;17:443–54. doi:10.1007/s00737-014-0425-8.
46. Somerville S, Byrne SL, Dedman K, Hagan R, Coo S, Oxnam E, et al. Detecting the severity of perinatal anxiety with the Perinatal Anxiety Screening Scale (PASS). J Affect Disord. 2015;186:18–25. doi:10.1016/j.jad.2015.07.012.
47. Braun V, Clarke V. Qualitative Research in Psychology Using thematic analysis in psychology Using thematic analysis in psychology. Qual Res Psychol. 2006;3:77–101. http://www.tandfonline.com/action/journalInformation?journalCode=uqrp20%5Cnhttp://www.tandfonline.com/action/journalInformation?journalCode=uqrp20.
48. Ehring T, Watkins ER. Repetitive negative thinking as a transdiagnostic process. Int J Cogn Ther. 2008;1:192–205.
49. Lebel C, MacKinnon A, Bagshawe M, Tomfohr-Madsen L, Giesbrecht G. Elevated depression and anxiety symptoms among pregnant individuals during the COVID-19 pandemic. J Affect Disord. 2020;277 August:5–13. doi:10.1016/j.jad.2020.07.126.

50. Huizink AC, Mulder EJH, Robles De Medina PG, Visser GHA, Buitelaar JK. Is pregnancy anxiety a distinctive syndrome? Early Hum Dev. 2004;79:81–91.
51. Blackmore ER, Gustafsson H, Gilchrist M, Wyman C, O'Connor TG. Pregnancy-related anxiety: Evidence of distinct clinical significance from a prospective longitudinal study. J Affect Disord. 2016;197:251–8. doi:10.1016/j.jad.2016.03.008.
52. Matthies LM, Wallwiener S, Müller M, Doster A, Plewniok K, Feller S, et al. Maternal self-confidence during the first four months postpartum and its association with anxiety and early infant regulatory problems. Infant Behav Dev. 2017;49 October:228–37. doi:10.1016/j.infbeh.2017.09.011.
53. Staneva AA, Bogossian F, Morawska A, Wittkowski A. "I just feel like I am broken. I am the worst pregnant woman ever": A qualitative exploration of the "at odds" experience of women's antenatal distress. Health Care Women Int. 2017;38:658–86.
54. Fonseca A, Monteiro F, Canavarro MC. Dysfunctional beliefs towards motherhood and postpartum depressive and anxiety symptoms: Uncovering the role of experiential avoidance. J Clin Psychol. 2018;74:2134–44. doi:10.1002/jclp.22649.
55. Sockol LE, Epperson CN, Barber JP. The relationship between maternal attitudes and symptoms of depression and anxiety among pregnant and postpartum first-time mothers. Arch Womens Ment Health. 2014;17:199–212.
56. Sockol LE, Battle CL. Maternal attitudes, depression, and anxiety in pregnant and postpartum multiparous women. Arch Womens Ment Health. 2015;18:585–93.
57. Oddo-Sommerfeld S, Hain S, Louwen F, Schermelleh-Engel K. Longitudinal effects of dysfunctional perfectionism and avoidant personality style on postpartum mental disorders: Pathways through antepartum depression and anxiety. J Affect Disord. 2016;191:280–8. doi:10.1016/j.jad.2015.11.040.
58. Horesh D, Garthus-Niegel S, Horsch A. Childbirth-related PTSD: is it a unique post-traumatic disorder? J Reprod Infant Psychol. 2021;39:221–4. doi:10.1080/02646838.2021.1930739.
59. Jomeen J, Martin CR, Jones C, Marshall C, Ayers S, Burt K, et al. Tokophobia and fear of birth: a workshop consensus statement on current issues and recommendations for future research. J Reprod Infant Psychol. 2021;39:2–15.
60. Brunton RJ, Dryer R, Saliba A, Kohlhoff J. Pregnancy anxiety: A systematic review of current scales. J Affect Disord. 2015;176 March:24–34.
61. Akinbode TD, Pedersen C, Lara-Cinisomo S. The Price of Pre-adolescent Abuse: Effects of Sexual Abuse on Perinatal Depression and Anxiety. Matern Child Health J. 2021;25:1083–93. doi:10.1007/s10995-020-03088-x.
62. Hughes C, T. Devine R, Foley S, D. Ribner A, Mesman J, Blair C. Couples becoming parents: Trajectories for psychological distress and buffering effects of social support. J Affect Disord. 2020;265 December 2019:372–80.
63. Biaggi A, Conroy S, Pawlby S, Pariante CM. Identifying the women at risk of antenatal anxiety and depression: A systematic review. J Affect Disord. 2016;191:62–77. doi:10.1016/j.jad.2015.11.014.

64. Ahmed A, Bowen A, Feng CX, Muhajarine N. Trajectories of maternal depressive and anxiety symptoms from pregnancy to five years postpartum and their prenatal predictors. BMC Pregnancy Childbirth. 2019;19:1–10.
65. Aris-Meijer J, Bockting C, Stolk R, Verbeek T, Beijers C, van Pampus M, et al. What If Pregnancy Is Not Seventh Heaven? The Influence of Specific Life Events during Pregnancy and Delivery on the Transition of Antenatal into Postpartum Anxiety and Depression. Int J Environ Res Public Health. 2019;16. doi:10.3390/ijerph16162851.
66. Martini J, Petzoldt J, Einsle F, Beesdo-Baum K, Höfler M, Wittchen H-U. Risk factors and course patterns of anxiety and depressive disorders during pregnancy and after delivery: a prospective-longitudinal study. J Affect Disord. 2015;175:385–95. doi:10.1016/j.jad.2015.01.012.
67. Osnes RS, Roaldset JO, Follestad T, Eberhard-Gran M. Insomnia late in pregnancy is associated with perinatal anxiety: A longitudinal cohort study. J Affect Disord. 2019;248:155–65. doi:10.1016/j.jad.2019.01.027.
68. Anurudran A, Yared L, Comrie C, Harrison K, Burke T. Domestic violence amid COVID-19. Int J Gynecol Obstet. 2020;150:255–6.
69. Bradley NL, DiPasquale AM, Dillabough K, Schneider PS. Health care practitioners' responsibility to address intimate partner violence related to the COVID-19 pandemic. Cmaj. 2020;192:E609–10.
70. Grussu P, Quatraro RM, Jorizzo GJ. Supporting perinatal women in the context of the COVID-19 emergency: can web-based antenatal education classes make it possible? J Reprod Infant Psychol. 2020;38:471–3. doi:10.1080/02646838.2020.1834261.
71. Moore D, Ayers S, Drey N. A Thematic Analysis of Stigma and Disclosure for Perinatal Depression on an Online Forum. JMIR Ment Heal. 2016;3:e18.
72. Oates J, Kwiatkowski R, Coulthard LM. Code of human research ethics. Leicester, UK British Psychological Society. 2010;:5–30.
73. British Psychological Society. Ethics guidelines for internet-mediated research. Leicester, UK. 2017