Doctorate in Clinical Psychology | Lancaster University

**Doctoral Thesis**

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# Qualitative analyses of perinatal experiences during the COVID-19 pandemic


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## Word Count

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## Thesis Abstract

The central focus of this thesis was to explore perinatal experiences during the COVID-19 pandemic. In the first chapter, a systematic literature review explored the experiences of parents and non-professional carers whose baby was in a Neonatal Intensive Care Unit (NICU) during the COVID-19 pandemic. Qualitative research was synthesised using a thematic synthesis approach. 14 papers were included in the review, resulting in four themes: (1) The psychological impact of having a child in NICU during the COVID-19 pandemic; (2) Relational challenges arising from having a child in NICU during the COVID-19 pandemic (3) Parents' perceptions of information and communication during the COVID-19 pandemic; (4) Coping and support for parents during the COVID-19 pandemic. The synthesised findings demonstrated a set of related issues of key concern for parents who had a baby in NICU during the COVID-19 pandemic, with implications for policy and practice. The second chapter presents a qualitative empirical study, exploring women's experiences of pregnancy during the COVID-19 pandemic. Data were collected via Mumsnet, an online forum where parents can share knowledge, advice, and support. Data were derived from three different timepoints during the pandemic. Thematic analysis was used to examine the data, resulting in three themes: (1) Health-related worry, anxiety, and fear; (2) Reduced safety and choice at work; (3) Family: connection versus threat. The findings outlined how being pregnant during the COVID-19 pandemic brought additional challenges, potentially increasing the likelihood of mental health difficulties for those who were pregnant during this time. In the third chapter, the critical appraisal includes the author's reflections on reflexivity, methods, findings, the research process, implications from the findings and potential future research.

## Declaration

This thesis records research activity taking place between March 2022 and November 2022 undertaken towards the Doctorate in Clinical Psychology at Lancaster University. The work presented is the author's own, except where due reference is made. The work has not been submitted for the award of an academic qualification elsewhere.

Sarah Hilton

5th May 2023

## Acknowledgements

To my delightful daughters, both of you have a very special way of keeping me grounded and in touch with the present moment. I am eternally grateful for you, and I love and appreciate you both beyond words. I cannot wait to have more free time to spend adventuring with you. To my husband, and such a wonderful dad to our girls. Thank you for your unwavering support, understanding and belief in me; you are the best teammate (and cheerleader)!

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**Chapter 1: Systematic Literature Review**

# Parental experiences of having a child in the Neonatal Intensive Care Unit during the COVID-19 pandemic: A qualitative meta-synthesis

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**Abstract**

**Aims:** To identify and synthesize qualitative literature on parents' and non-professional carers experiences of having a child in NICU during the COVID-19 pandemic, and to make recommendations based on these findings for psychology and healthcare practice. **Method:** A systematic search of five databases for qualitative research exploring parents' and non-professional carers' experiences of having a child in NICU during the COVID-19 pandemic was undertaken. Included papers were evaluated using the Critical Appraisal Skills Programme (CASP) quality guidelines. Data were extracted and themes were synthesized using thematic synthesis. **Results:** From the 14 papers included in the review, four themes were identified: (1) The psychological impact of having a child in NICU during the COVID-19 pandemic; (2) Relational challenges arising from having a child in NICU during the COVID-19 pandemic (3) Parents' perceptions of information and communication during the COVID-19 pandemic; (4) Coping and support for parents during the COVID-19 pandemic. **Conclusions:** The COVID-19 pandemic meant that parents who had babies in NICU faced additional challenges, such as separation from their infant and from the wider family. This led to difficulties in forming relationships and learning the skills required to care for their neonate. The way in which information was communicated to families during the pandemic was a key aspect of their experience. Usual coping and support strategies were impeded because of the pandemic, although families made adaptations. This review has highlighted implications for future policy and practice in the event of a further pandemic.

Key words: NICU; Parents; Experiences; Pandemic; Psychological; Thematic synthesis

## Introduction

In late 2019, COVID-19, an infectious disease caused by the SARS-CoV-2 virus quickly started to spread across the globe, resulting in The World Health Organisation (WHO) declaring a global pandemic in March 2020 (WHO, 2020). Particularly in the early stages of the pandemic, there was a lack of understanding regarding the disease (Koffman et al., 2020) and there was significant uncertainty in terms of how healthcare systems should respond (Abbasi, 2020). Restrictive measures were introduced to curb the spread of the virus, which included travel restrictions (Chinazzi et al., 2020), lockdowns (during which people were ordered to stay at home and refrain from public contact), social distancing (Arenas et al., 2020), and mask wearing (Teslya et al., 2020). Furthermore, the implementation of vaccination against COVID-19 did not commence until the end of 2020, and there were significant disparities across countries regarding access and availability (Ning et al., 2022).

The COVID-19 pandemic, resulted in disruptions to healthcare systems worldwide (Rao et al., 2021), including difficulties accessing medication, medical appointments, procedures, and surgery (Maddock et al., 2022). Whilst anybody could become ill or die from COVID-19 at any age, those with certain underlying health conditions were particularly vulnerable (WHO, 2022). Neonatal Intensive Care Units (NICUs) provide life support to newborns, with a variety of factors indicating the need for admission (e.g., pre-term birth, respiratory complications, hypoglycaemia, and jaundice) (Al-Wassia & Saber, 2017). Many infants admitted to NICU are critically unwell (Treyvaud et al., 2019) and at a high-risk of acquiring infections in hospital, which is a significant cause of mortality (Wang et al., 2019). With this in mind, even without a global pandemic, having a baby in NICU can be distressing for parents and carers.

When babies are admitted to NICU, this is often an unexpected life changing event (Hall et al., 2015) and parents can experience difficulties with attachment (Phuma-Ngaiyaye & Kalembo, 2016), relationships (Manning, 2012), and mental health (Obeidat et al., 2009). Due to the emotional strain experienced by parents, effective communication with staff is important in meeting their emotional needs (Wigert et al., 2013). There has been a move towards family-centred care within the NICU environment, whereby the individual needs of neonates and families are prioritised. This includes families being actively involved in care planning, decision making and care, and working collaboratively with healthcare staff (Ramezani et al., 2014). Family-centred care has been shown to decrease parents' stress (Griffin, 2006); promote trust in healthcare providers (Van Riper, 2001) and provide opportunities for parents to develop knowledge and skills in caring for their neonate (Trajkovski et al., 2012).

Despite the evidence behind a family-centred approach, there are some potential barriers to implementing this on a practical level. Working in a NICU environment can be emotionally demanding for staff (Cena et al., 2021) and even prior to the pandemic, there was a high prevalence of burnout (Profit et al., 2014; Tawfik et al., 2017). Medical staff within NICUs may feel overwhelmed by the illness acuity of infants in their care, thus their responsibility for medical care may inhibit their capacity to provide psychosocial support for parents (Hall et al., 2015). Further to this, the advent of the COVID-19 pandemic brought additional challenges for those working within NICUs. Preparedness for COVID-19 was suboptimal in terms of guidelines and availability of personal protective equipment within neonatal care settings across the world; the workforce was compromised, and staff feared for their own health (Rao et al., 2021). Moreover, due to policies which enforced restrictions, such as social distancing, some neonatal staff felt unable to act in line with their own values, the values of families, and the values of the family-centred care model (Cena et al., 2021).

Newborns were among the most vulnerable to the indirect effects of the COVID-19 pandemic within healthcare provision (Rao et al., 2021). Kostenzer et al. (2021) asserted that restrictions, such as separating newborns from their parents and legal guardians, severely challenged evidence-based cornerstones of infant and family-centred developmental care, concluding that there should be a zero-separation policy within NICUs in order to avoid 'unnecessary suffering' (p.9).

When infants and parents are separated, this can lead to difficulties with bonding and attachment (Flacking et al., 2012). The terms attachment and bonding are often used interchangeably however they are different concepts (Kim et al., 2020). Attachment refers to how the infant builds a relationship with the caregiver; bonding encompasses the caregiver's thoughts, feelings, and behaviours towards the infant (Ettenberger et al., 2021). Both attachment and bonding between parents and infants are viewed as fundamental to growth and development in children (Rees, 2007; Winston & Chicot, 2016).

One key influential factor in the facilitation of bonding and attachment is proximity between infants and caregivers (Matthews at al., 2019; Feldman et al., 1999). Skin-to-skin contact is beneficial for both mothers and infants, aiding the initiation of breastfeeding and bonding (Widstrom et al., 2019). Research has also shown the benefits of skin-to-skin contact on the paternal attachment relationship (Chen et al., 2017). Therefore, the separation of infants and parents is an important consideration from a clinical psychology perspective, as this could potentially lead to psychological difficulties in the longer term.

There were significant disruptions to healthcare, and staff within NICUs have identified that the pandemic had a largely negative impact on the delivery of care (MacSween et al., 2021). The present systematic review aimed to synthesise the findings of the available qualitative studies regarding parents' and non-professional carers' experience of having a

baby in NICU during the COVID-19 pandemic. It was hoped that the findings of this review would help to provide policy makers and healthcare providers with an understanding of the factors influencing this experience. This understanding could help to shape future policy and practice, and its application within NICUs in the event of a further pandemic.

## Method

This study used a qualitative thematic synthesis approach to synthesise data, as outlined by Thomas and Harden (2008). Thematic synthesis is an inductive process whereby data is systematically coded and descriptive and analytical themes are generated (Nicholson et al., 2016). This approach helps to bring together findings for a wide audience, whilst retaining the essential context and complexity of qualitative research (Thomas & Harden, 2008). Moreover, within thematic synthesis there is a focus on producing an output that is directly applicable to policy makers and those designing interventions (Barnett-Page & Thomas, 2009), thus it is a useful approach when applied to health (Nicholson et al., 2016) and psychological (Duden, 2021) research. Therefore, qualitative thematic synthesis fit with the aim of the present review, which was to synthesise the experiences of parents and non-professional carers whose baby was in NICU during the COVID-19 pandemic, and to consider implications for policy and practice.

This review was conducted and reported in line with Enhancing Transparency in Reporting the Synthesis of Qualitative Research (ENTREQ) framework (Tong et al., 2012). This framework highlights features particular to the synthesis of qualitative research such as coding, quotations, and the derivation of themes, producing an associated checklist, which can be found in Appendix 1-A.

## Data collection

A literature search was conducted in November 2022, to identify eligible studies from five databases: (APA PsycINFO; Academic Search Ultimate; CINAHL; medline; Coronavirus Research Database). These databases cover a broad range of topics including research related to psychology, medicine, and COVID-19. Search terms were developed in consultation with Medical Subject Headings (MeSH) following recommendations set out in Baumann (2016). This approach has been shown to be more efficient than the use of non-MeSH headings (Chang et al., 2009). Search terms were also set out according to a SPIDER framework (Cooke et al., 2012), see Table 1. These search terms were entered using the databases default settings, resulting in the following fields being searched for each database: APA PsychInfo, title, translated title, classification codes, abstract, keyword, and subjects; Academic Search Ultimate, subjects, keywords, title and abstracts; CINAHL, title, abstract and subject headings; Medline, MeSH terms, title, abstract, other abstract, transliterated title, and contributed indexing; Coronavirus Research Database, all available fields (including full text).

[TABLE 1]

## Inclusion and exclusion criteria

In order to ensure that data relevant to the aims of the study were included, various inclusion and exclusion criteria were applied. The aim of this review was to explore experiences, consequently, this review only included studies which had non-numerical data generated by the target sample, thus utilising either qualitative or mixed methods research. Survey study designs were included in this review, if they had used an open-ended question in order to elicit information about experiences from their participants.  A scope of the literature identified numerous studies concerned with developing or evaluating interventions

(e.g., Riskin et al., 2022; Sarik et al., 2022; Latif et al., 2022; Cristóbal-Cañadas et al., 2022). In addition, several studies focussed on the experiences of staff (e.g., MacSween et al., 2021; Haidari et al., 2021). These studies provided little information about the general experiences of parents and non-professional carers; thus, it was thought that these qualitative studies were unlikely to yield information relating to the primary aims of this review. Therefore, studies which only included data from professional carers or were concerned with the design or evaluation of interventions were excluded from this review. This review only included studies which had data from *both* professional and non-professional carers if it was feasible to determine which data was derived from which group.

As the COVID-19 pandemic started in 2019 it was not necessary to include studies prior to this date. As this research does not have the resources to fund translation, studies were limited to those written in the English language. Additionally, this review only included studies that were published in a peer reviewed journal. No exclusion criterion was applied regarding geographic location to enable a breadth of experiences impacted by different policies to be present in the review.

**Flow of studies**

A total of 1324 studies were extracted, and 459 duplicates were removed. The remaining 865 studies were reviewed at title/abstract, and from these, 63 were read at full text. Fourteen studies met criteria for this review (see Figure 1).

[FIGURE 1]

**Characteristics of included studies**

Table 2 summarises the characteristics of the studies and presents study IDs. A total of 14 studies, which included data from 497 people, plus 3161 text responses in the form of tweets, were included in the final analysis. In total there were 371 mothers; 75 fathers; 1 grandfather in studies which identified parent/carer roles. In Garfield's (2021) study it is not possible to determine exactly how many mothers or fathers accounted for the total sample of 50 parents, with Garfield (2021) stating, 'few fathers participated' (p. 3313). McKay's (2021) study was multinational and involved the analysis of 3161 tweets, and it is not possible to determine whether all of the tweets were from different people, nor their parental role. Two studies were conducted in the USA (Merritt et al., 2022; Vance et al., 2021), and two were conducted in the UK (Garfield et al., 2021; Marino et al., 2021); no other country had more than one study conducted within it.

Nine studies collected data via interviews (Bembich et al., 2021; da Silva Reichert et al., 2021; Kynø et al., 2021; McCulloch et al. 2022; Mengesha et al., 2022; Merritt et al., 2022; Osorio & Salazar 2021; Shoshi et al., 2022; Tasgit & Dil, 2022). Four studies collected data via survey methods which included open ended questions (Garfield et al., 2021; Marino et al., 2021; Meesters et al., 2022; Vance et al., 2021). One study collected data via Twitter, in the form of tweets with specific hashtags applied (McKay et al., 2021).

Four studies reported using content analysis (Mckay et al., 2021; Merritt et al., 2022; Shoshi et al., 2022; Tasgit & Dil, 2022), with two further studies specifically stating they applied thematic content analysis (Marino et al., 2021; McCulloch et al., 2022). Four studies used thematic analysis (da Silva Reichert et al., 2021; Kynø et al., 2021; Mengesha et al., 2022; Vance et al., 2021). One study used grounded theory (Osorio & Salazar, 2021). The method of analysis was unclear in three studies (Bembich et al., 2021; Garfield et al., 2021 Meesters et al., 2022).

## Quality appraisal

The Critical Appraisal Skills Programme (CASP; 2018) was used to appraise the quality of each study included in this meta-synthesis. CASP appraises the quality of studies according to ten items (Table 3), which contribute to three over-arching questions: 'Are the results of this study valid? (Section A)' (p.1) comprising of 6 items; 'What are the results? (Section B)' (p.1) comprising of 3 items; 'Will the results help locally? (Section C)' (p.1) comprising of 1 item.

Each paper was evaluated by the primary researcher, in conjunction with a three-point rating system developed by Duggleby et al. (2010). Papers were given a score out of three for each of the 8 areas considered by the CASP (items 3-10); these corresponded to whether a study was considered to provide a weak (1), moderate (2) or strong (3) explanation in its report of that area. The first two items on the CASP were not included in the final score as these are screening questions and it is expected that included studies will meet these criteria. The studies included in this meta-synthesis displayed a broad range of quality (scores of 16-24).

## Data synthesis

A thematic synthesis approach was used to analyse data following the steps recommended by Thomas and Harden (2008). By synthesising the experiences of parents and non-professional carers of babies in NICU, it was hoped that this would enable the identification of any impact of the pandemic on this population in order to make recommendations in the event of a similar occurrence in the future.

The topic of interest was assessed for the suitability of a thematic synthesis approach by reviewing the guidance set out by Thomas and Harden (2008), who recommend three stages of analysis: 1) free line-by-line coding of the findings of primary studies; 2) the

organisation of these 'free codes' into related areas to construct 'descriptive' themes; 3) the development of ‘analytical' themes.

When conducting the present review, data under the results and discussion sections were extracted and put into a separate document, for each of the primary studies. These were then coded inductively line by line to capture meaning and content. To enable the process of translating concepts from one study to another, codes from each study were collated in a separate document and new ones were developed when necessary. Then, groups of related codes were identified and combined into broader descriptive themes. The descriptive themes were then interpreted in light of the review question objective, to generate analytical themes. An example of this process can be found in Appendix 1-B. The coding and analysis was conducted by the primary researcher however the development of codes and themes were explored with the supervisory team.

## Results

The analysis identified four themes: (1) The psychological impact of having a child in NICU during the COVID-19 pandemic illustrates the emotional responses of parents in relation to restrictive measures and the risk of infecting infants with COVID-19; (2) Relational challenges arising from having a child in NICU during the COVID-19 pandemic outlines experiences related to separation from infants; separation from family; and bonding; (3) Parents’ perceptions of information and communication during the COVID-19 pandemic highlights the concerns parents had in relation to receiving accurate information from healthcare providers; their need for clarity and also their need to be heard by healthcare staff; (4) Coping and support during the COVID-19 pandemic outlines the strategies and support parents utilised to cope with having a baby in NICU during the pandemic.

**Theme one: The psychological impact of having a child in NICU during the COVID-19 pandemic**

This theme is concerned with the psychological impact on parents whose baby was in NICU during the COVID-19 pandemic and was discussed in 10 studies in total. This theme is comprised of two subthemes: 1) *The emotional impact of restrictive measures* (Bembich et al., 2021; Garfield et al., 2021, Shoshi et al., 2022, Tasgit & Dil, 2022; Vance et al., 2021; McKay et al., 2021; Meesters et al., 2022); 2) *The fear of infecting babies with COVID-19* (Marino et al., 2021 Meesters et al., 2022; Shoshi et al., 2022; Vance et al., 2021; Tasgit & Dil, 2022; Osorio & Salazar, 2021).

***The emotional impact of restrictive measures***

Specifically in relation to imposed COVID-19 restrictions, parents described feeling: 'sadness, anger, fear/worry' (Bembich et al., 2021, p.940); 'devastated, heartbroken and powerless' (Garfield et al., 2021 p.3311), and 'loneliness' (Shoshi et al., 2022, p.6). One study outlined the impact of a 'no visitors' policy, where parents could only visit their baby once after birth and then contact via FaceTime once a week. The authors reported that not being able to see and touch their babies resulted in parents experiencing 'anxiety, helplessness, and symptoms of depression (sadness, hopelessness, crying, feeling empty, worthlessness, guilt, self-blame, and problems concentrating and making decisions)' (Tasgit & Dil, 2022, p.296).

Vance et al. (2021) reported that restrictive policies undermined parents' role as essential to the infant's caregiving team and limited family-centred care, resulting in parents experiencing 'grief, isolation, overwhelm, confusion and anger' (p.8). In the study conducted by McKay et al. (2021), an analysis of tweets demonstrated the lived experience of parents whose children were in a NICU during the pandemic, for example, 'parents of sick and small

newborns must not be treated as visitors, they are #caregivers and must have unrestricted access to #NICU'; 'women, children and their families are being let down time and time again in this pandemic. This will affect us all for years to come' (p.6). Being unable to spend unlimited time with their babies resulted in stress for the majority of parents in the study carried out by Meesters et al. (2022).

However, one study highlighted that some parents appreciated 'an overall social quietness, peace, and ability to solely focus on the infant without welcoming visitors, such as eager family members or friends' (Kynø et al., 2021, p.9). Although it must be noted that not all parents had this opportunity, as some NICUs imposed 'no visitors' policies for parents.

***The fear of infecting babies with COVID-19***

Six studies outlined parents' emotions regarding the risks associated with transmitting COVID-19 to their babies. Parents experienced worry (Marino et al. 2021), stress (Meesters et al., 2022) and a 'heavy sense of responsibility and anxiety' (Shoshi et al., 2022, p.5) in relation to the risk of transmitting COVID-19 to their babies. One mother discussed the fear of becoming infected herself and the possible consequence of her baby being alone. She described the actions she took to prevent this:

> I was terrified that I'd have to be in quarantine because of contact with a sick person, and I knew this meant my baby would be alone. I saw that all the others didn't follow the instructions as carefully as I did, so I started to touch the doors with gloves, I didn't touch anything. We stopped sitting in the family room near the NICU because I saw that other people touched the surfaces…I really hit rock bottom. nothing could reassure me. (Shoshi et al., 2022, p.5)

Further, in relation to the risk of others infecting babies, Vance et al. (2021) highlighted that high staff turnover left parents concerned about how an increase in the number of contacts could lead to a heightened risk of exposure to COVID-19.

Tasgit and Dil (2022) outlined that although parents wanted to see, touch, and hug their babies, they were afraid that they might infect them with COVID-19, which caused extra stress and anxiety, and some mothers worried that their breast milk may contain the virus. Osorio and Salazar (2021) commented on the high emotional burden experienced by parents, related to fears regarding the vulnerability of their children. In this study one parent commented:

> It places you between a rock and a hard place because you have to take a risk and go out to the street without knowing if you will be infected and if you do you go and see your child and even if you wash your hands and where protective clothing, you are exposing the child too much. (Para. 25)

This theme has demonstrated how restrictive measures resulted in parents and families experiencing prolonged separation from babies, and from each other, which led to considerable emotional distress. Yet, there was also a concern amongst parents regarding physical closeness and the risk of their babies being infected with COVID-19. Consequently, this theme has highlighted the difficult balance for parents who longed to be close to their babies, but simultaneously feared the possible consequences of such closeness.

**Theme two: Relational challenges arising from having a child in NICU during the COVID-19 pandemic**

This theme demonstrates the relational challenges that parents faced due to having a child in a NICU during the COVID-19 pandemic and was discussed in 8 studies in total. The theme is comprised of two subthemes: *Bonding* (Bembich et al., 2021; Garfield et al., 2021;

McCulloch et al., 2022; Marino et al., 2021; Merritt et al., 2022; Kynø et al., 2021, Garfield et al., 2021); *Implications for the wider family* (McCulloch et al., 2022; Kynø et al., 2021; da Silva Reichert et al., 2021).

***Bonding***

Imposed COVID-19 restrictions impacted on parents' ability to bond with their baby. In the study conducted by Bembich et al. (2021), parents experienced limited access to the NICU, specifically, one parent per baby, for one hour per day. The authors commented on the 'relational suffering' (p. 940) experienced by some parents, as a result of being separated from their newborn. In the study conducted by Garfield et al. (2021), a much higher proportion of parents commented on difficulties related to bonding. In particular, parents described how the logistics of having a 2-hour window to bond through breastfeeding and skin-to-skin contact was challenging, and the majority of mothers were not able to establish breastfeeding.

Similarly, McCulloch et al. (2022) described how families were forced to make decisions that meant they could not breastfeed their infants as they intended, due to restrictions limiting their access to the NICU. In addition, some parents expressed concern about their face being covered by a mask, and the subsequent ability to bond with their baby; along with concerns about their baby not being able to distinguish their voice, smell, and touch from that of a NICU staff member (Marino et al., 2021).

Several papers highlighted the impact on fathers and the exclusion they faced. Merritt et al. (2022) outlined how fathers felt the NICU environment was geared toward mothers, leaving fathers feeling vulnerable and unsupported. One father stated:

> Ah, the NICU world's a lot like an extension of the maternity world. And it's all about women. And I get it, right? But there were many times that we had a new

person. And it's like they look at my wife before acknowledging me. It was like I was second class. (p.98)

In the study conducted by Kynø et al. (2021), several fathers struggled with a lack of paternal feelings until their baby was discharged from the NICU. One father reflected: '…You do not get a relationship with the infant in any way. I have children from before. But I saw some of the younger fresh fathers… they looked completely disconnected' (p.10). The authors commented on how fathers gradually got to know their baby following discharge, whilst also realising what they had lost along the way.

Osorio and Salazar (2021) reported that in some cases admission to the NICU was restricted to mothers only, meaning that fathers had no opportunity to spend time with their newborn, thus fathers had less opportunities to learn and develop confidence to care for their child. Whilst some NICUs imposed a ban on fathers visiting their babies, Garfield et al. (2021) found that due to limited visitation, some fathers chose to sacrifice their time with their baby to enable mothers to visit. Although mothers expressed concerns regarding the negative impact of this on their partner's bond with their baby and their confidence in parenting following discharge.

***Implications for the wider family***

Having a baby in NICU during the COVID-19 pandemic also affected the wider family, for example, McCulloch et al. (2022) found that when families only had one person in the NICU, they felt that the physical separation from their partner and broader support network increased their stress levels, made them feel lost, and was detrimental to their mental health. One mother commented: 'it would have been nice to have someone there to support me, not just support my daughter' (p. 56). Additionally, the authors summarised that families

with older children described how having to choose between their children and not being allowed to all be together in the NICU was the 'greatest impact of the pandemic' (p.56).

Kynø et al. (2021) identified that parents longed for a feeling of togetherness which would have been aided by all being present with their new family member. A significant additional burden on parents was their experience of older siblings feeling left out by not seeing their new sibling for months. Similarly, da Silva Reichert et al. (2021) noted that maternal stress arose for women who had older children needing their attention at home, with schools and leisure environments closed due to the pandemic.

This theme has outlined how having a baby in NICU during the pandemic impacted on parents' relationships with their babies, partners, and the wider family. Restrictive measures meant that opportunities for bonding were limited. In some case neither parent was permitted access to NICU, in others it was just the mother and fathers were overlooked. Siblings were unable to meet, and some parents felt as though they had to choose between their children. Moreover, restrictive measures meant there was little opportunity for families to learn how to care for their neonates until they were discharged.

**Theme three: Parents' perceptions of information and communication during the COVID-19 pandemic**

This theme outlines parents' experiences of information and communication received from healthcare providers (McCulloch et al., 2022; Kynø et al., 2021; Garfield et al., 2021; Osorio & Salazar, 2021; Meesters et al., 2022; Mengesha et al., 2022, Vance et al., 2021; Merritt et al., 2022) and the media (da Silva Reichert et al., 2021).

McCulloch et al. (2022) found that families who had a baby in NICU during the pandemic felt there was miscommunication regarding the rules, which impacted on decision

making, with one parent stating: ‘if there had been like a clear outline of what exactly the rules were, that would have helped us and probably saved a bunch of grief trying to work through what was the best decision to make’ (p.55). A further study commented on parents’ experience of excessive information transmitted by the media regarding COVID-19, and how maternal knowledge regarding restrictive measures and virus transmission was attained via media reports (da Silva Reichert et al., 2021).

Regarding communication with healthcare staff, Kynø et al. (2021) explicated that although parents reflected on nurses’ assistance in voicing their needs, it was a lack of organisation and leadership that parents questioned. Furthermore, inconsistent enforcement of regulations resulted in frustration in this sample. Similarly, Meesters et al. (2022) reported that while a large proportion of parents were satisfied with how restrictions had been communicated, some found the restrictions unclear, and staff members’ adherence to them to be inconsistent. Moreover, some parents expressed frustration when the reasons behind restrictions were difficult to comprehend. However, Osorio and Salazar (2021) found that when parents felt they received adequate reasons for limiting their entry to the NICU, they accepted and appreciated such control measures, thus highlighting the importance of effective communication.

The study conducted by Mengesha et al. (2022) highlighted mixed reviews regarding communication with healthcare staff, with some parents finding healthcare staff to be ‘kind’, ‘cooperative’ and ‘good in providing health information’ (p.126), whereas others felt that healthcare staff were ‘uncommitted, lacked discipline’ and ‘uncooperative’ (p.127). Vance et al. (2021) identified a stark contrast between reports of parents who felt staff acknowledged the extreme difficulty of the NICU environment during the pandemic, and those who did not perceive that acknowledgement. In particular, parents who received ‘sympathetic

recognition' (p.9) found it to be validating and supportive, while those who did not experienced the dissonance with staff as an additional burden.

Focussing specifically on fathers, Merritt et al. (2022) found that fathers desired a need for clarity and a need to be recognised within the NICU environment. In addition, fathers expressed a desire to have information free from medical jargon; clear guidelines; and to be informed what to expect. Fathers also wanted to be treated as equal partners in their child's care. Moreover, Garfield et al. (2021) reported that parents felt clear transparent communication would help them to cope, along with health professionals initiating conversation with parents and listening to their needs and experiences.

This theme has highlighted the importance of communication between healthcare professionals and parents of babies in NICU. Parents seem to particularly value communication that is kind, cooperative, transparent, and sympathetic to their situation; in addition to receiving information that is clear, non-jargonistic and consistent. When parents feel their needs and experiences are heard and recognised this can help them to feel validated, supported, and help them to cope.

**Theme four: Coping and support for parents during the COVID-19 pandemic**

This theme encompasses the coping strategies employed by parents who had a child in a NICU during the pandemic, along with implications related to support. Findings from 6 studies are included in this theme (Bembich et al., 2021; Shoshi et al., 2022; Tasgit & Dil, 2022; Meesters et al., 2022; McCulloch et al., 2022; Kynø et al., 2021).

Shoshi et al. (2022) asked mothers what helped them to cope with the stress and uncertainty surrounding having a baby in NICU during the pandemic and reported: 'improvement in the infant's condition; religious faith; the ability to emotionally lean on their partners; feeling connected to the world and to other mothers regarding the virus; and the

support of the professional team at the hospital' (p.6). However, mothers commented on how the pandemic had meant that their usual coping strategies had been compromised (e.g., social support and distraction) and it took time and effort to find other suitable resources. Bembich et al. (2021) found several adaptation strategies used by parents to cope with COVID-19 restrictions, specifically: [picturing] a context change (e.g., 'hope we will be home soon'; focusing on the baby (e.g., 'staying focussed on the baby helped me') or rationalisation (e.g., 'I understand we must protect our babies') (p.941).

In Tasgit and Dil's (2022) study, many participants used prayer as a way of coping. Additionally, they described how video-calling with their babies, receiving support from their partners, and talking to friends and relatives made them 'feel good' (p.297). The participants included in Meesters et al. (2022) also felt that using the webcam to see their infant helped them to cope, along with cognitive coping strategies such as positive thinking and putting things into perspective. The authors reported that some fathers within this sample identified playing sports or playing a game helped to distract them from stress. Interestingly, this study also highlighted that being able to spend time with their infant was viewed by some mothers as helping them to cope. Talking about their situation, primarily with partners, family members or a psychologist, was mentioned as most effective in dealing with stress within this sample.

The study conducted by McCulloch et al. (2022) highlighted the particular value of lactation consultants in facilitating a unique protocol to enable parents who were not permitted to enter the NICU to deliver breast milk for their babies. One mother commented that 'it meant a lot that I was at least able to do that for her, and that they were willing to take the milk' (p.57). Further findings outlined in Kynø et al. (2021) revealed how parent support groups were discontinued within the NICU during the pandemic, however some mothers initiated their own support groups, which acted as 'psychosocial support' (p.13). For

participants in this study, the peer led groups became an important part of coping with the situation and helped to keep up moral both during the NICU stay and following discharge. These groups enabled mothers to 'ask questions, debrief, cry together, and support each other' (p.9).

This theme has illustrated how the pandemic impacted on parents usual coping strategies, however with some time and effort most parents were able to adapt. There were a variety of strategies employed, such as changing thinking styles, playing sports or games, prayer, and talking to friends, family, or a psychologist. As a result of changes to services, some mothers established their own peer support groups and found this to be beneficial. For some, spending time with their infant was what helped them to cope, and for others it was seeing an improvement in their infant's condition; two factors that were hindered for many families during the pandemic.

## Discussion

The current review sought to synthesise the findings of qualitative studies regarding parents' experiences of having a child in NICU during the COVID-19 pandemic. Four themes were explicated from the included studies: (1) The psychological impact of having a baby in NICU during the COVID-19 pandemic; (2) Relational challenges arising from having a baby in NICU during the COVID-19 pandemic; (3) Parents' perception of information and communication during the COVID-19 pandemic; (4) Coping and support for parents during the COVID-19 pandemic.

Recent research has demonstrated that the COVID-19 pandemic and related restrictions affected both provision and quality of neonatal care (Rao et al., 2021), with

hospital restrictions having adverse effects on care and health outcomes for newborns, their families and healthcare professionals (van Veenendaal et al., 2021). This review has highlighted the psychological impact of restrictions for parents of babies in NICU during the pandemic. Parental access to NICUs varied across studies, with some NICUs declining parental access altogether, some allowing limited access, and some only permitting entry to one parent, usually the mother (see appendix 1-C for a summary of restrictions). The findings have shown that separation from their infants was distressing for parents, resulting in emotions such as sadness, anger, guilt, and anxiety. Moreover, given the imposed nature of restrictions, it is understandable that some parents experienced a sense of helplessness and powerlessness.

Importantly, separation from parents can put vulnerable infants at additional risk of death or long-term complications (Minckas et al., 2021), however so too could infection from COVID-19. The findings of this review revealed the difficult dichotomy of parents wanting to be near their babies, yet at the same time fearing that closeness would heighten the risk of transmitting COVID-19. The very nature of a neonatal intensive care unit means that many infants are already critically unwell, along with having an underdeveloped immune system due to their age; thus, concerns regarding their susceptibility to complications from COVID-19 were indeed warranted. This concern was reflected in the implementation of restrictive measures within NICUs, but also in parents' fear of their baby becoming infected with the virus. Additionally, if parents became infected this may result in further separation from their infant, which was a key source of stress.

COVID-19 restrictions made bonding challenging within NICUs. As stressed by Winston and Chicot (2016), mothers learn to bond with their children through vital interactions such as skin-to-skin contact, breastfeeding, and face-to-face contact. Moreover, these skills are the building blocks of babies' care and wellbeing. The findings of this review

indicate that restrictive measures meant that many mothers were denied this opportunity. Whilst some mothers were able to deliver breastmilk, many found it difficult to establish breastfeeding due to the limited amount of time spent with their child. Being physically close to their infant produces oxytocin, which helps to stimulate milk production (WHO, 2009) and aids emotional regulation for mothers (Carter, 2014), thus, proximity is a key consideration from both a physical and psychological perspective.

Moreover, several studies included in this review highlighted fathers' experiences, which is an essential consideration given the importance of fathers in infant outcomes. Specifically, when fathers are involved, infants have improved weight gain, sleep, and psychosocial behaviours, along with a reduced length of stay in NICU (Hearn et al., 2020). Therefore, it is especially concerning that some fathers were completely excluded from the NICU during the COVID-19 pandemic. In addition, this exclusion could have longer-term psychological consequences for fathers, and their relationship with their child, with the findings of this review highlighting how some fathers were unable to bond with their child until they were discharged from hospital.

The COVID-19 pandemic also had relational implications for the wider family. Parents who had older children faced the relational challenge of feeling as though they had to choose between their child in NICU and their children at home. The pandemic resulted in widespread closures of schools and leisure facilities, which meant children spent an increased amount of time at home, which is likely to have exacerbated the sense of absence felt within the home environment. Moreover, in the circumstances where access to NICU was permitted, it was usually the mother who visited and fathers felt overlooked, which could potentially lead to relationship difficulties between couples. Although some couples may experience a strengthening of their relationship (Stefana et al., 2022), it is reasonable to hypothesise that

there is a risk of relationship strain arising from the experience of a NICU hospitalisation (Manning, 2012).

Good quality neonatal provision should include parental presence, involvement in care and shared decision making (Oude Maatman et al., 2020). COVID-19 restrictions meant that these essential features of good quality neonatal provision were impeded, and parents had little choice or control regarding how best to care for their child. The findings outlined in the third theme indicate that information and communication provided by healthcare professionals was a key aspect of parents' experience. It has been suggested that COVID-19 communication should be rapid, accurate, empathic, and unified in order to reduce fear and uncertainty and to increase credibility and trust (Sauer et al., 2021). This review has revealed that parents within NICUs particularly valued information that was clear, consistent, and empathically communicated, even when they were being told something undesirable.

Previous research has shown that parents identified a need for improvement in staff-parent communication within NICUs (Wigert et al., 2014; Berns et al., 2007, Mok & Leung, 2006). Professional-centred staff attitudes and a lack of training in communication skills are some of the barriers to providing quality family-centred care (Raiskila et al., 2016). Moreover, it has been argued that few NICUs offer staff education regarding optimal methods of communication with parents in distress (Hall et al., 2015), thus further emphasising the importance of considering communication between families and healthcare providers. This seems especially important under pandemic circumstances, where parents experience limited access to the NICU and decreased availability of support.

As highlighted in the fourth theme, usual coping strategies and support mechanisms were hindered for many parents during the pandemic. Social media was viewed as a helpful way to stay connected with friends and family; however, this is not likely to have the same

benefits when interacting with a newborn and attempting to form a relationship. Proximity is important for infants when developing an attachment with their caregivers (Matthews et al., 2019), thus the implementation of stringent restrictive measures needs careful consideration within this population. Treyvaud et al. (2019) stress the necessity of a multi-layered approach to support parents in NICUs, specifically, individual psychological and psychosocial support, peer-to-peer support, and family-centred care. Providing psychosocial support to parents of babies in NICU can improve parents' functioning, as well as their relationship with their babies (Hall et al., 2015).

Support groups within NICUs have been shown to improve wellbeing through increased confidence (Jarett, 1996; Cooper et al., 2007), self-esteem (Roman et al., 1995) and decreased anxiety and depression (Cooper et al., 2007; Roman et al., 1995; Preyde & Ardal, 2003). The findings of this review revealed that support groups within NICUs were cancelled due to the COVID-19 pandemic, although some parents established their own peer support and found this to be beneficial, even following discharge. However, it is possible that peer supporters can experience emotional contagion and feel overburdened when acting as a replacement for professional support (Rebeiro Gruhl et al., 2013; Aitken & Thomson, 2013), thus training, supervision and support should be provided (Hall et al., 2015).

Several mothers commented on their use of cognitive coping strategies such as rationalisation and positive thinking. It is possible that remote input from a psychologist could help to further develop such strategies. This could be particularly beneficial for fathers who identified more practical ways of coping such as playing sport or games, and who often feel overlooked with the NICU setting. Moreover, psychologists could help to support bonding, and, as Bry and Wigert (2019) suggest, the involvement of psychologists within NICUs could decrease the burden on nurses.

**Clinical implications**

Given the importance of attachment in human development (Rees, 2007; Winston & Chicot, 2016), separating parents and newborns has the potential to result in long term psychological consequences for both parents and children. Although restrictions were imposed with the intention of safeguarding against virus transmission, this needs to be weighed up against the potential physical and psychological consequences of separating infants and parents.

The way in which information is communicated to parents can impact on emotions and behaviour, therefore this is an important consideration for policy makers and healthcare providers. Further attention is needed regarding the way in which information is communicated to parents within NICUs. Even when the evidence or risks are uncertain, if the information is communicated in a non-jargonistic, clear and empathic way, this is appreciated by parents. Policy makers and healthcare providers should be mindful of this, and further research and training for healthcare staff would be advisable.

In addition, the need for support for parents who have a child in NICU has been recognised in previous research (e.g., Treyvaud et al.,2019). This review has reinforced the value of support for parents, especially under circumstances where usual coping and support mechanisms are impeded. Given the findings outlined in this review, the development of peer support groups could be a particularly useful resource for when staff are unable to facilitate. Psychologists could be a valuable resource within NICUs, to provide support for staff and families as well as providing staff training and facilitating supportive communication. Moreover, psychological research would help to aid understanding and avenues for improvement. In addition, psychologists could provide valuable input regarding assisting decision makers to consider the potential psychological impact of separation.

**Strengths and limitations**

This review has included studies from 10 countries, with a further study including multi-geographical data. Given the largely complementary nature of findings across numerous countries, there could be generalisable elements regarding the factors influencing parents' experience of NICU during a pandemic. However, these countries have had different COVID-19 restrictions applied. Furthermore, within these countries different restrictions were applied at different times dependent on transmission rates and recommendations. Therefore, although there is mutuality between the study findings, it is likely that the country in which data was collected and the time at which data was collected will have had a direct impact on the experiences of participants. Given the rapid changes in imposed restrictions in some countries, it is likely that within several studies there are participants who have experienced different levels of restriction. This may reduce the homogeneity of participants' experiences between studies (or even participants within the studies).

One notable limitation to this research is that there are certain key terms which have been omitted from the search strategy. For example, in the search terms used to; identify the sample 'fathers' is not used; identify the design phrases such as mixed methods and survey have not been used. This may have resulted in eligible studies not being identified in the literature.

Quality appraisal helps to contextualise the work for the reader. Due to the small number of eligible studies in this recently emerging area of research, which span a broad geographic area, the researcher considered that excluding papers on the basis of quality may have reduced the sample and generalisability of the findings. The included studies regardless of assessed quality had substantial overlap in terms of findings therefore it was not deemed

necessary to place a greater emphasis on the findings of papers assessed to be higher in quality. However, this could be viewed as a limitation.

**Future research**

It would be beneficial to further explore the experiences of parents and carers regarding their experiences of how health and risk information is communicated within NICUs, using the findings to develop best practice guidelines and training for staff. An exploration of barriers to effective communication amongst staff could help to inform guidance, training, and support. Follow up studies of parents who had a child in NICU during the pandemic would help to inform understanding of the potential longer term psychological consequences arising from their experience. This may also help to inform understanding of how to better support families with a baby in NICU in the event of future pandemics.

**Conclusion**

This review has highlighted a set of related issues of key concern for parents who had a baby in NICU during the COVID-19 pandemic. Those areas of particular importance for participants relate to the balance between closeness with their babies and managing the risk of infection. In addition, separation due to restrictive measures meant that opportunities for bonding were impeded for parents, along with limited opportunity to learn and develop confidence in caring for their babies. The way in which information is communicated to parents impacts on their experience of having a baby in NICU. There were changes to usual coping and support mechanisms during the pandemic, however parents generally adapted, such as employing cognitive strategies or developing their own peer support groups. These areas represent important considerations for health and psychological services regarding the care that is offered to parents within NICU and following discharge.

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Tables and Figures

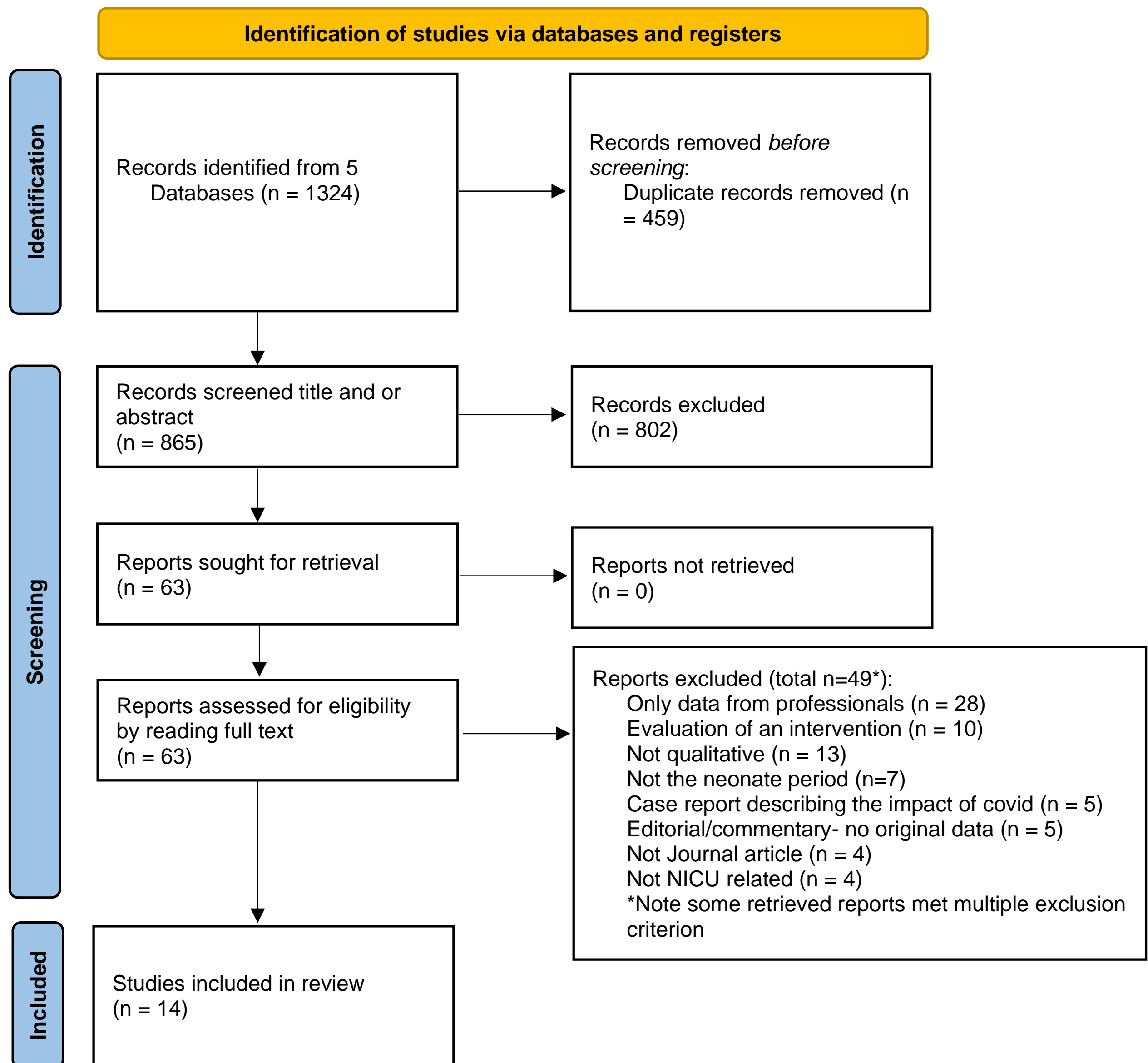


*Figure 1*. Diagram showing flow of studies

**Table 1**

***SPIDER format of search strategy***

| SPIDER | Description | Search terms |
|---|---|---|
| Sample | Parents or non-professional carers | premature or preterm or "neonatal intensive care unit"**~ or nicu or "baby unit" or "newborn intensive care" or "mothers psychosocial factors"* or postnatal or "maternal health services"~ or "paediatric intensive care unit"** or PICU |
| Phenomenon of Interest | Experiences of having a baby in NICU during the COVID-19 pandemic | covid-19**#~ or coronavirus**# or 2019-ncov~ or sars-cov-2**~ or cov-19 or pandemic~ or "2019 novel coronavirus"~ or "coronavirus disease" |
| Design/Evaluation | Qualitative study | "qualitative research"~ or "qualitative study" or "qualitative methods"# or interview~ or focus group#~ or experience* or qualitative |
| Research type | Peer reviewed journal article in English language | |

* Please note that this search term was included as it was identified as a search term commonly associated with the other terms in this element of the SPIDER by Ebscohost search system

** Subject heading CINAHL

#Subject heading APA Psychinfo

~ Subject headings Medline

Note: All search terms were consistent across databases. Please see main text for fields searched for each database.

**Table 2**

***Describing the characteristics of studies included in this review***

| Study ID | Aims of study | Participant description (age, diagnosis, etc.) | Methodology | Analysis method | Country / region of data collection |
|---|---|---|---|---|---|
| Bembich et al. (2021) | Explore parents' experiences of covid restrictions in a NICU | 9 mothers, 1 father | One-to-one interviews. Lasting circa 10 minutes based around 1 question. | 'the procedures adopted in qualitative research' (p.940) | Italy |
| Da Silva Reichert et al. (2021) | Explore mothers of premature neonates experiences of covid restrictions in a NICU | 21 mothers aged 18-38. 15 in relationships, 6 single. 9 first time mothers, 12 2 or more children. | One-to-one telephone interviews, recorded, transcribed according to topic guide | Thematic analysis | Brazil |
| Garfield et al. (2021) | Explore staff* and parents experiences of a NICU during the covid pandemic | 50 parents ('few fathers participated', p.3313, however no numbers cited) | Survey methods with open ended questions. | No details provided of analysis method | UK |

| | | | | | |
|---|---|---|---|---|---|
| Kynø et al. (2021) | Explore parent's experiences of covid restrictions in a NICU | 9 mothers, 4 fathers (9 sets of parents); The infants were hospitalized for mean (range) 59 (32–110) days. Their infants were born extremely preterm, very preterm or full-term. | One-to-one semi-structured interviews (4 in person, 6 via videocall). Interview length 29-65 mins (mean 49 mins); | Thematic analysis | Norway |
| Marino et al. (2021) | Explore experiences and support needs of parents | 103 mothers, 4 fathers (median age 29.5), 50% children preterm | Survey methods. Open ended questions. | Thematic content analysis | UK |
| McCulloch et al. (2022) | Explore family and staff* experiences of a NICU during covid restrictions | 9 mothers, 2 fathers, 1 grandfather; length of stay range 1-131 days; most aged 30-40 years old (58%) | Interviews with 6 families, 3 focus groups with 5 families via videocall. | Thematic qualitative content analysis | Canada |
| McKay et al. (2021) | Explore parents and professionals' experiences of a NICU during COVID | 3161 text responses** (tweets). However, these may not be from individual people. | Collection of social media data | Content analysis following a priori defined methods | Multi-national (no geographic limit) |

| Study | Aim | Participants | Data collection | Analysis | Country |
|---|---|---|---|---|---|
| Meesters et al. (2022) | Explore the impact of COVID restrictions in a NICU on parents well being | 16 mothers, 9 fathers | Survey methods consisting of open and closed questions | Unclear | Holland |
| Mengesha et al. (2022) | Explore the experiences of parents of children admitted to a NICU | 9 mothers, 9 fathers (20 children [2 sets of twins]), 18 children were pre-term, 2 were full term | One-to-one semi-structured interviews following a topic guide. Interview time range 30-60 mins, mean time 45 mins | Thematic analysis | Ethiopia |
| Merritt et al. (2022) | Explore the emotional, physical, and psychological needs of fathers of neonates on a NICU | 28 fathers of premature babies recruited through peer support groups | One-to-one semi-structured interviews via video call. Interview time range 15-45 mins | Content analysis | USA |

| | | | | | |
|---|---|---|---|---|---|
| Osorio & Salazar (2021) | Explore parents of preterm childrens experiences of a NICU during covid restrictions | 9 mothers, 3 fathers age range 20 to 52 years old, 15 children (1 set of twins, 1 set of triplets) all children pre-term, length of stay on NICU range 16 to 83 days | One-to-one semi-structured interviews via video call or voice call. Interview time range 30-80.0 mins | Grounded theory | Colombia |
| Shoshi et al. (2022) | Explore challenges experienced by mothers of children in a NICU during a pandemic | 12 mothers of preterm infants (mean age 27 years old, SD=6). 7 primipara. Length of NICU stay | One-to-one face to face narrative interview (range 30-45 mins) | Content analysis | Israel |
| Taşgıt & Dil (2022). | To investigate difficulties experienced by parents of neonates during the pandemic and explore attachment. | 20 parents (ten fathers and ten mothers) of 10 infants, mean age 32.2 ± 3.61 years; mean NICU admission 18 days (min 14 days) | Face to face interviews (range 30-45 minutes | Content analysis | Turkey |
| Vance et al. (2021) | Describe experiences of parents of neonates in a NICU during the pandemic | 169 parents (164 mothers); mean age 31 years old (SD= 5.4) | Free text responses to 6 open ended questions | Reflexive thematic approach | USA |

**Table 3.**

***Showing study ratings using the Critical Appraisal Skills Programme (CASP) tool***

| Study ID | CASP Items | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 3. Was the research design appropriate to address the aims of the research? | 4. Was the recruitment strategy appropriate to the aims of the research? | 5. Was the data collected in a way that addressed the research issue? | 6. Has the relationship between researcher and participants been adequately considered? | 7. Have ethical issues been taken into consideration? | 8. Was the data analysis sufficiently rigorous? | 9. Is there a clear statement of findings? | 10. How valuable is the research? | CASP total |
| Bembich et al. (2021) | 2 | 3 | 2 | 1 | 1 | 1 | 3 | 3 | 16 |
| da Silva Reichert et al. (2021) | 3 | 3 | 3 | 1 | 3 | 2 | 2 | 3 | 20 |
| Garfield et al. (2021) | 2 | 3 | 3 | 1 | 3 | 1 | 3 | 3 | 19 |
| Kynø et al. (2021) | 3 | 2 | 3 | 1 | 3 | 3 | 3 | 3 | 21 |
| Marino et al. (2021) | 2 | 2 | 3 | 1 | 2 | 2 | 1 | 2 | 15 |
| McCulloch et al. (2022) | 3 | 2 | 3 | 1 | 3 | 3 | 3 | 3 | 21 |
| McKay et al. (2021) | 3 | 2 | 3 | 1 | 1 | 3 | 2 | 3 | 18 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Meesters et al. (2022) | 2 | 3 | 2 | 1 | 2 | 1 | 3 | 3 | 17 |
| Mengesha et al. (2022) | 3 | 3 | 3 | 1 | 3 | 2 | 3 | 3 | 21 |
| Merritt et al. (2022) | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 23 |
| Osorio & Salazar (2021) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 24 |
| Shoshi et al. (2022) | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 23 |
| Tasgit & Dil (2022) | 2 | 3 | 3 | 1 | 3 | 2 | 2 | 2 | 18 |
| Vance et al. (2021) | 2 | 3 | 3 | 1 | 2 | 3 | 3 | 3 | 20 |

## Appendices

### Appendix 1-A: ENTREQ Checklist

| Item | Guide and description | Report location |
|---|---|---|
| 1 Aim | State the research question the synthesis addresses. | Introduction |
| 2 Synthesis methodology | Identify the synthesis methodology or theoretical framework which underpins the synthesis and describe the rationale for choice of methodology (e.g., meta-ethnography, thematic synthesis, critical interpretive synthesis, grounded theory synthesis, realist synthesis, meta-aggregation, meta-study, framework synthesis). | Method |
| 3 Approach to searching | Indicate whether the search was pre-planned (comprehensive search strategies to seek all available studies) or iterative (to seek all available concepts until they theoretical saturation is achieved). | Method |
| 4 Inclusion criteria | Specify the inclusion/exclusion criteria (e.g., in terms of population, language, year limits, type of publication, study type). | Method |
| 5 Data sources | Describe the information sources used (e.g., electronic databases (MEDLINE, EMBASE, CINAHL, psycINFO, Econlit), grey literature databases (digital thesis, policy reports), relevant organisational websites, experts, information specialists, generic web searches (Google Scholar) hand searching, reference lists) and when the searches conducted; provide the rationale for using the data sources. | Method |
| 6 Electronic Search strategy | Describe the literature search (e.g., provide electronic search strategies with population terms, clinical or health topic terms, experiential or social phenomena related terms, filters for qualitative research, and search limits). | Method |
| 7 Study screening methods | Describe the process of study screening and sifting (e.g., title, abstract and full text review, number of independent reviewers who screened studies). | Method |
| 8 Study characteristics | Present the characteristics of the included studies (e.g., year of publication, country, population, number of participants, data collection, methodology, analysis, research questions). | Method |
| 9 Study selection results | Identify the number of studies screened and provide reasons for study exclusion (e.g., for comprehensive searching, provide numbers of studies screened and reasons for exclusion indicated in a figure/flowchart; for iterative searching describe reasons for study exclusion and inclusion based on modifications t the research question and/or contribution to theory development). | Method |
| 10 Rationale for appraisal | Describe the rationale and approach used to appraise the included studies or selected findings (e.g., assessment of conduct (validity and robustness), assessment of | Method |

| | | |
|---|---|---|
| | reporting (transparency), assessment of content and utility of the findings). | |
| 11 Appraisal items | State the tools, frameworks and criteria used to appraise the studies or selected findings (e.g., Existing tools: CASP, QARI, COREQ, Mays and Pope [25]; reviewer developed tools; describe the domains assessed: research team, study design, data analysis and interpretations, reporting). | Method |
| 12 Appraisal process | Indicate whether the appraisal was conducted independently by more than one reviewer and if consensus was required. | Method |
| 13 Appraisal results | Present results of the quality assessment and indicate which articles, if any, were weighted/excluded based on the assessment and give the rationale. | Method |
| 14 Data extraction | Indicate which sections of the primary studies were analysed and how were the data extracted from the primary studies? (e.g., all text under the headings 'results /conclusions' were extracted electronically and entered into a computer software). | Method |
| 15 Software | State the computer software used, if any. | |
| 16 Number of reviewers | Identify who was involved in coding and analysis. | Method |
| 17 Coding | Describe the process for coding of data (e.g., line by line coding to search for concepts). | Method |
| 18 Study comparison | Describe how were comparisons made within and across studies (e.g., subsequent studies were coded into pre-existing concepts, and new concepts were created when deemed necessary). | Method |
| 19 Derivation of themes | Explain whether the process of deriving the themes or constructs was inductive or deductive. | Method |
| 20 Quotations | Provide quotations from the primary studies to illustrate themes/constructs and identify whether the quotations were participant quotations of the author's interpretation. | Results |
| 21 Synthesis output | Present rich, compelling and useful results that go beyond a summary of the primary studies (e.g., new interpretation, models of evidence, conceptual models, analytical framework, development of a new theory or construct). | Results, discussion, critical appraisal |

**Appendix 1-B: Summary of theme development**

| Example extracts from results and discussion sections | Codes | Descriptive Theme | Analytical Theme |
|---|---|---|---|
| It made me very sad (Bembich et al., 2021)<br><br>Exhausted and stressed (Garfield et al., 2021) | Emotional responses to separation | Restrictive measures and separation from infants resulted in a range of emotions amongst parents | The psychological impact of having a child in NICU during the COVID-19 pandemic<br><br>Subtheme 1: The emotional impact of restrictive measures |
| I was terrified that I'd have to be in quarantine because of contact with a sick person, and I knew this meant my baby would be alone (Shoshi et al., 2022)<br><br>It places you between a rock and a hard place because you have to take a risk and go out to the street without knowing if you will be infected and if you do you go and see your child and even if you wash your hands and where protective | Fear of becoming infected and not being able to see baby<br><br>Fear of transmitting COVID-19 to baby | Parents feared the potential impact of transmission to babies, and to themselves | Subtheme 2: The fear of infecting babies with COVID-19 |

| | | | |
|---|---|---|---|
| clothing, you are exposing the child too much (Osorio & Salazar, 2021) | | | |
| | | | Relational challenges arising from having a child in NICU during the COVID-19 pandemic |
| You do not get a relationship with the infant in any way (Kynø et al., 2021) | Father not being able to bond | Opportunities for bonding were reduced because of restrictive measures and having a baby in NICU also impacted on relationships within the family | Subtheme 1: Bonding |
| A 2-hour window to bond through breastfeeding and skin-to-skin contact was challenging, and the majority of mothers were not able to establish breastfeeding correctly (Garfield et al., 2021) | Limited time with infant impacted bonding for mothers | | |
| And it's like they look at my wife before acknowledging me. It was like I was second | Fathers less important than mothers | Relationships between partners and other children were impacted | Subtheme 2: Implications for the wider family |

| | | | |
|---|---|---|---|
| class (Merritt et al., 2022)<br><br>It would have been nice to have someone there to support me, not just support my daughter (McCulloch et al., 2022)<br><br>Maternal stress arose for women who had older children needing their attention at home, with schools and leisure environments closed due to the pandemic (da Silva Reichert et al., 2021) | Disconnection from support network<br><br>Multiple caring responsibilities resulting in stress | | |
| If there had been like a clear outline of what exactly the rules were, that would have helped us and probably saved a bunch of grief trying to work through what was the best decision to make (McCulloch et al., 2022)<br><br>Clear transparent communication | Unclear rules<br><br>Communication aids coping | Guidance and communication were generally unclear, however there were certain elements of communication that parents appreciated | Parents' perceptions of information and communication during the COVID-19 pandemic |

| | | | |
|---|---|---|---|
| would help them to cope, along with health professionals initiating conversation with parents and listening to their needs and experiences (Garfield et al., 2021).<br><br>Parents who received 'sympathetic recognition' found it to be validating and supportive (Vance et al., 2021) | <br><br><br><br><br><br><br><br><br><br><br><br><br>Communication can provide validation and support | | |
| Improvement in the infant's condition; religious faith; the ability to emotionally lean on their partners; feeling connected to the world and to other mothers regarding the virus; and the support of the professional team at the hospital (Shoshi et al., 2022)<br><br>Playing sports or playing a game helped to distract them from stress | Coping strategies of mothers<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>Coping strategies for fathers | Parents used a variety of coping and support strategies, some of which needed to be adapted due to the pandemic | Coping and support during the COVID-19 pandemic |

| | | | |
|---|---|---|---|
| (Meesters et al., 2022).<br><br>Receiving support from their partners, and talking to friends and relatives made them 'feel good' (Tasgit & Dil, 2022) | <br><br>Importance of connection with partners and family | | |

**Appendix 1-C: Summary of COVID-19 restrictions as stated by included studies**

| Study ID | Country | COVID-19 restrictions in place at the time of the study |
|---|---|---|
| Bembich et al. (2021) | Italy | Access to the NICU was limited to one parent per baby, one hour per day. This restriction lasted three weeks. |
| da Silva Reichert et al. (2021) | Brazil | "Social isolation" was in place (p.2). There was provisional suspension of follow-up consultations with clinically stable premature infants, as well as suspension of childcare consultations in the Basic Health Units. |
| Garfield et al. (2021) | UK | Data was gathered during the first UK lockdown, where there was restricted parental presence within the NICU. |
| Kynø et al. (2021) | Norway | Entry to the NICU was denied to all except healthy mothers in March 2020. The absolute access ban for fathers lasted for 10 weeks. |
| Marino et al. (2021) | UK | Reduced parental access to infants, particularly those born preterm or unwell, with only one parent at a time allowed by the cot side and no additional visits from the immediate or extended family. |
| McCulloch et al. (2022) | Canada | During Wave 1 (March–June 2020), the restrictions allowed only one support person, who was not allowed to leave the hospital, to be present with their infant. Siblings and extended family were not permitted. Some relaxation occurred between Waves 1 and 2 allowing other |

| | | |
|---|---|---|
| | | designated support people to be present 1 week at a time. They could redesignate who was present each week. Some exceptions were granted if patients were palliative or very ill. |
| McKay et al. (2021) | Multi-geographical | Global twitter data gathered between 24th October 2020 and 30th November 2020. |
| Meesters et al. (2022) | Netherlands | This cross-sectional study was conducted from 21 April 2020 until<br>31 June 2020<br>27th March 2020 – only one caregiver to visit NICU in 24 hours, no other visitors allowed.<br>24th April 2020 – only one parent per infant to visit NICU in 24-hour period. Parents with twins could both visit one of their infants. No other visitors allowed.<br>1st July 2020 – no visitation restrictions for parents. No other visitors allowed. |
| Mengesha et al. (2022) | Ethiopia | Limited visiting time that was regulated by the hospital. Restrictions in parents being able to engage in the care of their neonates. |
| Merritt et al. (2022) | USA | Not stated |
| Osorio & Salazar (2021) | Colombia | Restrictions limited possibilities of accompaniment, contact, and interaction by the parents with their children. |
| Shoshi et al. (2022) | Israel | Babies were allowed to breastfeed at the breast and were not separated from a |

| | | |
|---|---|---|
| | | mother with COVID-19. Mothers were instructed to wear a mask at all times during the hospital admission, except for brief periods of eating or washing, and were instructed to wash their hands prior to any kind of baby handling. Distancing of at least 2 m between babies was implemented at all times. No more than one visitor at a time was allowed, and only belonging to the same family (spouse or child). Grandparents were not allowed to visit the NICU. If one parent was sick and the other in isolation, then the preterm infant remained alone without the presence of a family member. |
| Tasgit & Dil (2022) | Turkey | Due to the pandemic, parents could only see their babies at birth and once a week on tablets (FaceTime) provided by the hospital. Parents could not meet with their babies face-to-face to reduce the risk of transmission. However, they could FaceTime with them once a week. Parents of babies with poor general conditions were encouraged to see them. |
| Vance et al. (2021) | USA | Restricted parental presence |

**Appendix 1-D: Author guidelines for Journal of Reproductive and Infant Psychology**

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**Chapter 2: Research Paper**

# Women's experiences of pregnancy during the COVID-19 pandemic: A thematic analysis of online posts to Mumsnet

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## Abstract

**Aims:** The COVID-19 pandemic was formerly declared in March 2020, leading to widespread implications for health and wellbeing. Pregnant women were classed as 'vulnerable' in terms of the potential risks of contracting COVID-19. The aim of this longitudinal study was to explore the experiences of women who were pregnant during the pandemic. **Method:** Data was gathered from Mumsnet, an online forum where parents can share information, advice, and support. The data set was comprised of posts related to pregnancy and COVID-19, and thematic analysis was used to analyse the data. **Results:** Analysis identified three themes: (1) Health-related worry, anxiety, and fear; (2) Reduced safety and choice at work; (3) Family: connection versus threat. **Conclusions:** The findings have highlighted several considerations for healthcare and psychology services, such as how best to support this population in the event of future pandemics.



Key words: Pregnancy; Experiences; Psychological; Pandemic; Mumsnet; longitudinal

## Introduction

The first reported cases of COVID-19, an infectious disease caused by the SARS-CoV-2 virus, occurred in late 2019. By March 2020, the World Health Organisation (WHO) had formerly declared the incidence and clustering of cases to constitute a global pandemic. The pandemic brought significant uncertainty regarding daily life and public safety, initially seeming to infect people indiscriminately (Estes & Thompson, 2020). There were alarming implications for both individual and collective health, as well as emotional and social functioning (Pfefferbaum, 2020); with some arguing that the pandemic was a collective continuous traumatic stressor (Estes & Thompson, 2020).

In the early stages of the pandemic, as the global death toll rapidly rose, scientists worked to create an effective vaccine, however little was known about its protective efficacy and side effects (Yan et al., 2021). Restrictive measures were imposed across the globe to slow down the spread of the virus, including: lockdowns; travel bans and restrictions; closures of workplace and educational settings; mandatory isolation; quarantine; social distancing and cancellations of mass gatherings (Ayouni et al., 2021).

There were widespread concerns about the negative economic, social and health effects of restrictive measures (Sheikh et al., 2020). Numerous studies have since highlighted the potentially adverse psychological consequences of such measures, for example, depression and perceived stigma (Jassim et al., 2021); anxiety and poor sleep (Huang & Zhao, 2020); and post-traumatic stress responses (Bo et al., 2020). Additionally, the World Health Organisation recently reported that during the first year of the pandemic there was a 25% increase in the prevalence of anxiety and depression worldwide (WHO, 2022).

Several ‘vulnerable’ groups were identified as being at an increased risk of physical complications if they were to become infected with COVID-19 (Department of Health and

Social Care, November 2020). One such group was pregnant women. During pregnancy, the immune response to infections is altered (Silasi et al., 2015) and pregnant women have higher complications and mortality rates associated with viral infection than the general population (Jamieson et al., 2006). Viral infections during pregnancy can lead to complications such as miscarriage, growth restriction, birth defects and preterm birth (Racicot & Mor, 2017). Therefore, those who were pregnant during the pandemic were advised to take additional measures to protect themselves against infection (Department of Health and Social Care, November 2020).

Aside from the physical implications, the COVID-19 outbreak placed an increased psychological burden on the pregnant population as there was limited evidence to provide clear-cut answers and recommendations for those at risk and infected with COVID-19 during pregnancy (Hapshy et al., 2021). The pandemic is considered a traumatic stressor (Kira et al., 2020), which is concerning given that a body of research has demonstrated that prenatal stress can have significant effects on pregnancy, maternal mental health, and human development (e.g., Coussons-Read, 2013; Van den Bergh et al., 2018, 2020).

Recent research has begun to highlight the impact of the pandemic on pregnant women. A cross-sectional study, conducted in Spain, compared the results of psychological measures completed by two groups: those who were pregnant during and prior to the pandemic. Women who were pregnant during the pandemic scored significantly higher on measures of depression, phobic anxiety, and perceived stress than those who were pregnant pre-pandemic (Puertas-Gonzalez et al., 2021).

In the USA, women enrolled on an existing study completed self-report questionnaires during early pregnancy, prior to COVID-19, and during COVID-19 (Perzow et al., 2021). It was found that higher loneliness was associated with increased depressive

symptoms during COVID-19. Moreover, lower income-to-needs-ratio most strongly predicted symptoms during early pregnancy (Perzow et al., 2021). This suggests that contextual factors, such as socioeconomic status could potentially intensify the negative psychological impact of being pregnant during the pandemic. This is evidenced further by research which has highlighted that families with a low household income, young parents and those from minority ethnic communities were more likely to have a difficult experience of lockdown, further exacerbating existing inequalities in the perinatal period (Saunders & Hogg, 2020).

Additionally, a qualitative study conducted in Turkey found that pregnant women felt depressed, exhausted, tense, lonely, overwhelmed, and bored during the pandemic; and almost all pregnant women stated that they were affected in a negative way psychologically (Güner & Oztürk, 2022). With such research findings in mind, the COVID-19 pandemic has been repeatedly linked to adverse and multidimensional consequences for pregnant women, and these consequences have been observed internationally.

Healthcare providers have a central role in addressing emotional outcomes as part of the pandemic response (Pfefferbaum, 2020). The COVID-19 pandemic and the consequential mitigation measures led to notable changes to routine healthcare delivery across many countries (Di Gessa et al., 2021). Changes to maternity care during the pandemic included: appointment cancellations; social distancing during face-to face appointments; birth partner restrictions; and limiting visitors during intrapartum care (Townsend et al., 2021).

There are dangers associated with a reduction in face-to-face contact, particularly for those who may be considered 'hard to reach', even under usual circumstances (Esegbona-Adeigbe, 2020). This is concerning as inadequate use of antenatal services can mean that pregnant women are twice as likely to be at risk of maternal morbidity (Nair, Nelson-Piercy

& Knight, 2017). One qualitative study suggests that some women developed complications in pregnancy because of delayed antenatal care during the pandemic (Güner & Oztürk, 2022). Furthermore, changes to healthcare during the pandemic have been found to be significantly associated with trauma symptoms, anxiety, depression, and loneliness (Basu et al., 2021).

Loss of social support during the pandemic was found to have a detrimental impact on the mental health and wellbeing of pregnant women (McKinlay et al., 2022). However, there was a surge in the use of digital technologies due to social distancing and lockdowns (De' et al., 2020). Therefore, during imposed isolation due to the pandemic, it is likely that online forums offered pregnant women opportunities for social connection. Research suggests that two key functions of online pregnancy forums are information exchange and emotional support (Ellis & Roberts, 2020), and relationships formed online can minimise feelings of isolation (Naslund et al., 2016). Analysing forum messages can provide researchers in health-related fields with important insights into the needs, opinions and experiences of individuals who use them (Smedley & Coulson, 2021).

Clinical psychologists play a critical role in the delivery of therapy for those experiencing psychological difficulties during the perinatal period (Buist et al., 2015). From a clinical psychology perspective, online discussions can provide an insight into the thoughts, feelings, experiences and needs of pregnant women. This insight is important as opportunities to monitor psychosocial needs and offer support during direct patient encounters in clinical practice were greatly impeded during the pandemic (Pfefferbaum, 2020).

Much of the existing research related to pregnancy and the COVID-19 pandemic has been quantitative. Although findings from such research have helped to inform understanding regarding the impact of the pandemic on pregnant women, a qualitative thematic analysis will allow an in-depth insight into the factors linked to women's experience of pregnancy during

such unique circumstances. Therefore, the current longitudinal qualitative study will conduct a thematic analysis of online forum discussions to explore the experiences of pregnancy across different timepoints during the COVID-19 pandemic, which sets it aside from other recent publications in the topic area. It is hoped that the findings will help to inform care for women who were pregnant or gave birth during the pandemic.

## Method

### Design

This aim of this study was to explore women's experiences of pregnancy during the COVID-19 pandemic. A qualitative design lends itself to addressing this research question; in particular, thematic analysis allows for a detailed and complex account of data (Braun & Clarke, 2006). Thematic analysis is useful for examining the perspectives of different participants, highlighting similarities and differences, and generating unanticipated insights (King, 2004).

An increasing number of research studies have utilised data from online forums as analysis material, many of which have used data from forums related to pregnancy and parenthood, such as Mumsnet (e.g., Croucher et al., 2020; Pedersen & Lupton, 2018; Jaworska, 2018). Online forums can be considered 'virtual focus groups' where members discuss topics without the presence of a researcher and their potential influence on the data (Moloney et al., 2003).

In this study, data were derived from multiple threads on an online discussion forum, Mumsnet, where parents share knowledge, advice, and support. Data related to the experience of pregnancy during the COVID-19 pandemic was analysed using thematic analysis, as outlined by Braun and Clarke (2006).

### Data set

The target population included women from the UK who discussed their experience of being pregnant during the pandemic on Mumsnet. Although Mumsnet is the leading UK website for parents, due to the online nature, it is not possible to determine the geographical location of each person who posts.

The final data set was comprised of 1460 electronic messages on Mumsnet. with 522 posts in timeframe one; 703 posts in timeframe two; 235 posts in timeframe three. These posts were made by 339 participants in timeframe one; 419 participants in timeframe two; 145 participants in timeframe three. Although all relevant data provided the basis for analysis and informed the themes, the presented results draw on a subset of posts and participants to illustrate the themes identified. Within the results, posts from 35 participants are presented. These posts highlight the issues discussed in relation to each theme.

**Procedure**

Mumsnet provided permission to use forum data for the purposes of this research (Appendix 2-A). Within Mumsnet there are posts (individual messages) and threads (conversations). People can start a thread or contribute to an existing one. Threads were searched using the terms ‘COVID-19’ and ‘pregnancy’. Three timeframes of the pandemic were chosen, each consisting of 45 days, mapping onto particular periods of UK restrictions:

1) 26th March 2020 – 10th May 2020

2) 17th May 2021 – 1st July 2021

3) 24th February 2022 – 7th April 2022

Although data collection timeframes were intended to span 30 days, this was expanded to 45 days to ensure sufficient data. It was felt that retrieving data from the above timeframes would aid insight into the factors which influenced experiences of pregnancy at

different points throughout the pandemic. In the UK, during timeframe one, the first lockdown measures legally came into force. During timeframe two a limit of 30 people could meet outdoors; there was also a limit of six people/two households who could meet indoors; indoor venues reopened and up to 10,000 spectators were permitted to attend the very largest outdoor seated venues. During timeframe three all legal requirements to self-isolate were removed (see appendix 2-B).

**Data analysis**

Data retrieved from the online discussion threads specific to women's experiences of pregnancy during the COVID-19 pandemic were subject to Braun and Clarke's (2014) thematic analysis, which provides a robust, systematic framework for coding qualitative data, and using that coding to identify patterns across the dataset in relation to the research question.

Drawing on guidance by Braun and Clarke (2006), the researcher familiarised themselves with the data across all three timeframes. Issues discussed within the threads were grouped together according to sets of common concerns. This process focussed on understanding the experiences and viewpoints of participants. Transcripts were comprised of the collection of posts within each thread, under each timeframe.

Each transcript was read with the research objectives in mind to identify themes from a psychological perspective and with a focus on the phenomena being researched (experiences of pregnancy during the COVID-19 pandemic). The researcher used a margin next to each transcript to note impressions on parts of the text which appeared to be of significance to the research question. This involved attempts to summarise the material, making links between comments, and making preliminary interpretations. A second column was used to note key words and phrases which appeared to capture the fundamental essence

of the emergent themes. These keywords were not definitive themes but were interpretative reflections on what was thought to occur in the text. A separate document was used to collate emergent themes and to examine connections between them. Themes that were related were put together under a general category heading (see Appendix 2-C for an example). Themes that were not greatly represented in the analysed transcripts were stored in a separate document. Any obvious spelling/punctuation errors in the data were corrected and some words added in square brackets to improve readability, but none of the content was changed.

The researcher adopted an inductive approach, whereby the data determined the themes. Moreover, a latent approach to the data meant that underlying meaning could be examined. As Braun and Clarke (2014) highlight, interpretations of the data may vary. To reduce the impact of researcher bias and to help ensure rigor, data was shared and reviewed with research supervisors. As recommended by Smith et al. (2009), the researcher kept a reflexive journal, which entailed acknowledgement of the researcher's position and experiences as a woman who was pregnant during the pandemic.

The researcher adopts a critical realist epistemological position. Critical realism originated as a scientific alternative to both positivism and constructivism (Denzin & Lincoln, 2011), however draws on components of both positivist and constructivist paradigms (Brown et al., 2002). Causation is considered, which helps researchers to explain social events and suggest practical policy recommendations to address social problems (Fletcher, 2016). A critical realist approach to qualitative research is focussed on understanding social reality, rather than describing it (Vincent & Mahoney, 2018). Therefore, with the research question in mind, a critical realist approach allows an understanding of how an event such as the outbreak of COVID-19 is linked to subjective experience of pregnancy and how this understanding may help to shape future recommendations.

### Ethical considerations

The British Psychological Society (BPS, 2021) have issued guidance around internet-mediated research, addressing issues related to confidentiality, anonymity, and consent. Moreover, it discusses the challenge of determining whether online spaces are perceived as public or private. This has been a widely debated topic with some arguing there can be no reasonable expectation of privacy when sharing information in a public domain (Ellis & Roberts, 2020). Furthermore, undisclosed observation of such data is non-invasive and non-disruptive (Janetzko, 2016) and can be deemed to pose minimal risk to individuals.

The BPS (2021) asks researchers to maximise benefits and minimise harm; suggesting the procedures researchers use are proportional to the likely risk to participants and researchers. The terms of use and privacy policies of the internet forums were scrutinised to ensure that the research was ethical. Mumsnet is a public site with no passwords or subscriptions necessary to access discussion threads and posts. However, the researcher sought and was granted approval by Mumsnet to use comments posted on the site for the purposes of this study. Pseudonyms were used, and identifying information was omitted to protect anonymity as far as possible. However, because the information has been posted in a public domain, there is still a risk of identification. Ethical approval for the study was gained from Lancaster University Faculty of Health and Medicine Research Ethics Committee in April 2021.

## Results

The analysis identified three themes: (1) Health-related worry, anxiety, and fear; (2) Reduced safety and choice at work; (3) Family: connection versus threat.

### Theme one: Health-related worry, anxiety, and fear

Worry, anxiety, and fear were commonly expressed emotions throughout the data set, primarily centred around health-related issues, specifically, contracting COVID-19; the quality of care available during the pandemic; and receiving the COVID-19 vaccine. Interestingly, the focus of worry, anxiety and fear differed across the timeframes, which is likely to be reflective of specific pandemic-related factors, such as variations in restrictive measures, transmission rates, availability of the vaccine and public health messaging.

During timeframe one, there was uncertainty regarding the risk that COVID-19 posed to pregnant women; thus, contracting the virus was a key concern for those who were pregnant during this period. For MN1, the conflicting information regarding the potential risk of harm appeared to contribute to her sense of worry and ability to enjoy pregnancy:

> I'm terrified of getting Covid. I'm taking all precautions and self-isolating, but I think the evidence is so conflicting… I just wish I could relax and start enjoying my pregnancy but I'm a nervous wreck. I'm extremely worried about going to antenatal appointments. (MN1)

Similarly, fear and anxiety surrounding contracting COVID-19 impacted on MN2's thoughts around accessing antenatal care:

> …I know they're important, but I'm just so terrified to go to my hospital or midwife because of Covid... there's just so much anxiety surrounding it all… Whole thing is making me so nervous I'd rather just not go to any more appointments… (MN2)

Whilst some women were worried about attending appointments, others wanted to, but expressed concern regarding reduced quality of care: 'I understand the need for all the precautions, but I'm worried I'll receive different care to what I would have done pre Covid' (MN3). Being considered high risk was linked to MN4's fear: 'I've had my consultant and growth scan cancelled. I'm high risk due to high chance of baby having Downs syndrome and

a previous still birth. I've been released back to community midwife care. I'm utterly terrified' (MN4).

Additionally, MN5 turned to Mumsnet for 'advice and reassurance' after being declined a scan:

> It is my first pregnancy. I am high risk... Due to the circumstances at the moment with the Coronavirus the hospital are not rescanning and have told me just to wait…and there is nothing more they can do. (MN5)

MN5 described feeling like she was 'going out of my mind', asking Mumsnet users to describe any 'positive or negative outcomes', indicating that she was so despairing at the lack of information that she would rather hear negative information from strangers on the internet than no information at all.

During timeframe two there was considerable discussion related to the COVID-19 vaccine. Whilst some women were certain whether they would or would not be vaccinated, others were unsure. Several women spoke about their worry, anxiety, and fear, which in some cases seemed to be amplified by a perceived lack of, or conflicting information surrounding vaccination:

> I understand the guidance has changed and the vaccine is now being recommended. I've been undecided and was hoping to wait until my baby is born… as the rates are increasing… I'm now becoming increasingly anxious about whether I should arrange to have the vaccine while pregnant. I spoke to my Midwife but unfortunately she was unable to offer any advice (said she was unsure of the evidence) … (MN6)

MN6's comment also highlights the uncertainty experienced by healthcare staff and how limited or changing guidance hindered their capacity to offer trusted support.

Limited research impacted on MN7's sense of fear and uncertainty, leading her to turn to other pregnant women for advice:

> What's everyone's thoughts on getting the COVID jab during pregnancy? I really want to be protected but so scared we will be the first set of women to have it after the USA trials & the lack of trials scares me. Any thoughts advice? Such a hard decision. (MN7)

MN8 highlighted two conflicting positions of rationally weighing up evidence (being 'medically minded') and her emotional response to the stressful situation:

> …[I]have the vaccine booked but I'm really stressed and tearful about it and I'm not sure I'll be able to go through with it. I'm worried about it causing a miscarriage or stillbirth even though I know this is irrational. I've also read about people missing periods etc after the vaccine and I'm worried [about] it effecting hormones this could cause problems with the development of the pregnancy. I told you it was irrational- I'm actually quite medically minded...I'm so worried about it causing problems to the baby I can't think straight. (MN8)

A perceived lack of support and guidance from medical professionals was related to the fear experienced by MN9, who explained that she 'tried to get some more advice from [her midwife] … and [she] wouldn't entertain a conversation about it at all. My GP was the same.' For MN9, this experience appeared particularly disconcerting as she felt she had 'zero support'. Moreover, MN9's fears about the impact of the vaccine on her pregnancy were compounded by her belief that she is 'of an age where [she] may not have time on [her] side'; this pregnancy during the pandemic may be her only chance of having a baby.

Despite having access to medical colleagues, a student nurse sought the lived experience and expertise of other pregnant women: 'Has anyone had any side effects while having the

vaccine and being so pregnant? I'm aware of the dangers around covid… so I'm keen to have it. Just looking for reassurance…' (MN10)

Restrictive measures were substantially eased during timeframe three. At this point, worry, fear and anxiety were centred around having become infected with COVID-19, and what this might mean for pregnant women and their babies. MN11 had been checked by medical professionals but remained 'hugely worried for baby and me' (MN11), suggesting a lack of trust in the information she had received, and highlighting the role of Mumsnet in providing opportunities for containment and reassurance.

MN12 referred to herself as being 'notorious for worrying' and it being easy to catastrophise, which was exacerbated by being pregnant during a pandemic: 'Tested positive over the weekend I'm worried about MC[1], the possibility of babies development being effected etc…Just easy for my mind to run away and think/expect the worst' (MN12).

Having an underlying health condition, having experienced a previous miscarriage and being in her third trimester were factors linked to the fear and panic expressed by MN13:

> My partner has covid…so [I] took a test and it's positive…I have an underlying health condition…I'm terrified not for me but my baby, I'm scared that I have this in third trimester as read it's the riskiest time to get it and panicking someone will go wrong. I had a miscarriage in my last pregnancy and now I can't believe I have this. (MN13)

Another woman with previous experience of pregnancy loss contracted COVID-19 at 19 weeks pregnant and wanted reassurance from positive outcomes, further highlighting how the lived experience of other mothers is a valued source of support:

[1] Miscarriage

> This baby is my rainbow baby [2]…I have had all 3 jabs, but I'm terrified the baby will have complications or become unwell. Did anyone else have Covid during pregnancy and have any positive stories of healthy babies…to help keep my anxiety at bay. (MN15)

Previous pregnancy loss also contributed to the fear and worry experienced by MN14: '…Just tested positive this morning... I'm scared. I had covid and caught pregnant, I had the jab and fell again. I lost both pregnancies. I'm hoping it was just the world's worst coincidences' (MN14). Although MN14 had experienced significant loss, she felt hopeful that this was due to coincidence.

This theme highlighted the emotional impact of being pregnant during the pandemic, with several associated factors identified. Specifically: restrictive measures; transmission rates; a lack of/conflicting information; the introduction of the vaccine; support; previous pregnancy loss; age/fertility; being considered high risk; whether it was a first pregnancy.

**Theme two: Reduced safety and choice at work**

This theme outlines the negative impacts of feeling unsupported during pregnancy in relationships at work, along with loss of roles and structure associated with having to leave work due to the increased risk associated with pregnancy and COVID-19.

In timeframe one, MN16 decided not to go to work due to feeling unsafe. MN16 referred to this being her first baby aged 33, indicating that these factors influenced her decision making:

> I'm currently pregnant…it's my first baby age 33. I'm staying at home as don't wanna risk going to my job. It's so horrible being home all the time. I'm feeling so down and lazy. But it's safer than being outside. (MN16)

[2] Baby after pregnancy loss

Due to the risk associated with working on the frontline, MN17 and MN18 felt the need to tell their employer about their pregnancy earlier than they would have liked: ‘I ended up telling loads of people at 5 weeks because of COVID, which I wasn't delighted about…’ (MN17). MN18 described ‘dreading’ telling her manager and had intended to but ‘bottled it’. MN18 did not feel comfortable telling her manager because of interpersonal difficulties, stating: ‘I find the manager a bit funny’ and because ‘it feels way too early to be telling people at work…’ (MN18).

MN19 was unsure of her rights and did not feel confident that she would be supported by her employer. Moreover, MN19 was in the difficult position of being exposed to confirmed COVID-19 cases but feeling as though she had little autonomy or control of her own risk management in the workplace:

> [I]work in front line healthcare on inpatient wards with 100% positive covid patients... I am only 5 weeks pregnant and have my risk assessment tomorrow. I suspect they will tell me as long as I wear PPE I have to continue. My feeling is I should be moved to another ward but unsure if I can insist on this... (MN19)

MN20 highlighted the potential financial difficulties arising from the pandemic. These financial difficulties were related to maternity leave and care of dependents, which resulted in stress and worry, expressed as a panic attack:

> With everything going on with Covid-19 I am finding my stress levels are through the roof... I'm a support worker in my third trimester. Government guidelines say I'm in the vulnerable group and should avoid all unnecessary contact. Which I can’t do if I am to do my job. I have a 2-year-old…since his nursery closed I've being on unpaid dependency leave trying to sort an alternative…I don't want to leave my house. But

> the other worries start coming like how can we survive with no income... With all this going on I had a panic attack this morning…(MN20)

In timeframe two, MN21 debated whether to get the COVID-19 vaccine, with her job role and rising cases contributing to her experience and decision-making process. However, she felt there were no safe options, and being vaccinated or unvaccinated came with risks:

> There's been another 3 cases at my workplace over the past 24hours. It's not a job we can self-isolate during either. It's such a hard call, unknown danger vs known danger! I wish I could isolate from home and I would feel a lot happier…I'm at very high risk of Covid which pre pregnancy maybe wouldn't have been the end of the world but it feels more risky now. But as risky as getting a vaccine that the government won't label safe? (MN21)

MN22 discussed feeling unsafe and unsupported in the workplace, which was influenced by the approach of management along with co-workers not abiding by rules. The stage of pregnancy was also a factor in her perception of risk:

> …They have had many many cases and seem unable to stick to any rules regarding social distancing or covid guidelines... I received an email today stating that staff will no longer be required to wear masks in production areas... I am not comfortable about this at all as I am currently 26 weeks pregnant and worried of the risk if I were to catch covid... My manager is not approachable, and I fear she will tell me tough luck... (MN22)

Similarly, MN23 described feeling nervous and unsupported during timeframe three, when restrictions were lifted. MN23's experience was influenced by a lack of clarity over guidelines, in addition to her relationship with work and her employer:

> …I work in a hospital type environment. Staff dropping like flies with covid… Patients also have it… I'm 28 weeks pregnant and I'm feeling very nervous being in the environment. Is there any guidelines for me to shield or something? My manager doesn't really seem to care. (MN23)

Like MN19's experience in timeframe one, although MN24 felt supported 'to an extent', she also stated that she was 'not allowed' off patient facing duties, indicating a lack of control in terms of her own risk management. For MN24, her age and previous experience of pregnancy loss was significant. Her perception of risk was also influenced by exposure to people not wearing masks, both during her commute and whilst at work:

> I'm 12 weeks and bloody terrified of how much covid is going around... I'm 40 and had multiple losses. No one masks on transit, tubes and buses are rammed, patients refuse to wear masks, etc. My manager is aware of my pregnancy and supportive to an extent, but I'm not allowed off from patient facing duties until 26 weeks… (MN24)

Whereas some pregnant women would have preferred to reduce social contact at work to manage the risk of infection, others reflected on the potential negative impact of a change to their role: 'I am 24 weeks with a complicated twin pregnancy and working in healthcare, so have another 2 weeks of patient contact… I am not looking forward to the nonpatient contact in 2 weeks, think I'll go mad' (MN25); 'I'm 29 weeks and work in the NHS…I have to work from home for the third trimester and I'm not looking forward to it at all! I'm going to really miss the structure of being part of a patient facing team' (MN26). Loss of roles, structure and routine stemming from the pandemic were significant for MN25 and MN26.

This theme illustrates the challenges that pregnant women faced in relation to work during the pandemic. Feeling unsafe and unsupported was a common experience, in addition to a

perceived lack of autonomy and control over risk management. Moreover, this theme highlighted the impact of a lack of clear guidance and awareness of rights. Loss of roles, routine and structure were an issue for some people who experienced changes to their job, and financial implications were a concern for one woman.

**Theme three: Family: Connection versus threat**

Women spoke of the relational challenges they faced whilst being pregnant during the pandemic. In particular, the impact of vulnerability and restrictions on closeness, family ties and social support. In addition, due to the pandemic situation, family were a potential threat of transmitting the virus.

During timeframe one, MN27 lived away from her partner who worked directly with people infected with COVID-19. The reality of their first pregnancy was not what they had hoped for:

> I'm feeling so overwhelmed…This is my first pregnancy and he wants to be so involved it's so hard knowing he won't be able to come to first scan etc and witness first stages of pregnancy, this is what we have been working towards for such a long time and we are both so happy, but I feel really scared and alone… (MN27)

Within MN28's family there were concerns surrounding whether her partner should attend the birth as he was in the extremely clinically vulnerable category; with the viewpoints of family members seeming to be influential. MN28 highlights the juxtaposition of an idealised birth (involving her partner), with her partner needing to be absent to keep himself safe. There were risks associated with either option, both to physical and mental health:

> His family are all assuming he's not coming to the birth and that I will live with my mum for a week after. But a week! I'm guessing newborns can change a lot in that time, I'd be so sad for him to miss that time with her. Before this we talked a lot about

> skin to skin and he was planning on helping feed her if I pump etc…I could only imagine what covid would do to him... It's not worth it, is it?... I suppose if rather he miss the first week than the rest of them? It's just so hard… (MN28)

Co-parenting whilst being pregnant during the pandemic was a challenge for MN29:

> …I have 2 children from a previous partner who haven't seen their dad for 2 weeks. He's a bus driver and has family who work in a supermarket so is still around lots of people. My question is what should I do? I don't want to stop them from seeing each other but at the same time am so scared the kids will catch something and be really poorly or they will give me the virus and potentially affect the pregnancy… I just don't know what 2 do for the best. (MN29)

In timeframe two there was significant discussion about the vaccination programme. MN30 faced pressure from family members to decline the vaccine, although these family members were 'double vaccinated and not pregnant'. Moreover, unhelpful comparisons were made with her sister's pregnancy, which occurred during an imposed lockdown. This further highlights the role of specific pandemic-related factors are linked to the experiences of pregnant women, such as the restrictive measures in place at the time, the availability of the vaccine and the changing perceptions of risk:

> …it has been difficult listening to people (mum and MIL[3] mostly) trying to put me off it when they are both double vaccinated and not pregnant and don't have the anxiety of not only this decision but the fear of catching covid amidst rising cases, new variants and without the protection of lockdown. My mum keeps saying 'but your

[3] Mother-in-law

> sister just isolated during her pregnancy’. No, my sister was in lockdown during her pregnancy, as was the rest of the country. (MN30)

When contemplating the costs and benefits of the vaccine, MN31 considered how remaining unvaccinated could potentially limit her freedom to engage in family activities, as she might have done pre-pandemic:

> Finding myself so torn with this vaccine decision. I’m 33 weeks and actually booked in to have the jab this week but I keep going back and forth on it… Then I start thinking that with things opening back up I’d really like to enjoy the last few weeks of it just being me, my DH and DS [4]before baby arrives and get out and about a bit more. (MN31)

As restrictions eased, social contact increased, thus there was a greater chance of being exposed to the virus. MN32’s comment highlights the difficulty in avoiding the virus at this point in the pandemic, with family being a potential source of transmission:

> I have just tested positive for Covid... My husband had it last week and I moved out as soon as we realised and stayed at my mum's while he was positive. However, while I was there my brother tested positive so I tried to keep my distance as best as I could. I have managed to avoid it the whole pandemic until now, I'm gutted. (MN32)

For MN33, this increased contact and potential for family transmission of COVID-19 was compromised by family members’ actions, resulting in anger towards them: ‘…just tested positive, caught it from my covid denying in laws who didn’t bother to tell me they’d been exposed... I’m swinging between devastated, angry and concerned for my baby, but mostly the latter…’ (MN33)

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[4] DH = Dear Husband; DS = Dear Son

Isolating from family was not feasible for MN34 and MN35: '…I had covid 3 weeks ago when I was 32 weeks. I caught it from my husband…we couldn't isolate from each other in our home…' (MN34); 'I'm just waiting to get it now as my son has tested positive this morning. He slept in my bed last night and it's not like I'm going to shut him away so it seems inevitable' (MN35), thus having other children in the household was an additional consideration for mothers in terms of balancing the risk of transmission with closeness to their children.

This theme outlines the relational challenges pregnant women faced during the pandemic. Whilst family members were a source of support, they also posed a threat in terms of infection, resulting in some women spending time away from their partners. However, others highlighted that it was not feasible to remove all risk from family life, especially for pregnant women with dependants.

## Discussion

The central aim of this study was to explore women's experiences of pregnancy during the COVID-19 pandemic. Data analysis identified three themes: (1) Health-related worry, anxiety, and fear; (2) Reduced choice and safety at work; (3) Family: connection versus threat.

Theme one explicated the relationship between pandemic-related factors and the emotions experienced by pregnant women. Specifically, women described feeling worried, anxious, and fearful in relation to contracting COVID-19, receiving the COVID-19 vaccine, and accessing antenatal care. The findings indicated several factors associated with the emotions described, such as: COVID-19 transmission rates; a lack of/conflicting information; previous pregnancy loss; being considered high-risk; and whether it was a first pregnancy.

Fear is a common response to infectious disease outbreaks (Usher et al., 2020) and fear of the unknown increases anxiety in individuals with or without pre-existing mental health difficulties (Rubin & Wessely, 2020), therefore it is understandable that fear and anxiety were commonly expressed emotions by discussion group participants, both for those who identified as notorious worriers and those who felt they were typically rational.

The sense of uncertainty women experienced was apparent, which has been evidenced in other recent studies (e.g., Abu Sabbah et al., 2022; Keely et al., 2023). Whereas these studies focussed on one timepoint during the pandemic, the current study has demonstrated the uncertainty experienced by pregnant women across different timepoints. Moreover, as data was comprised of online forum posts, the current study provides an insight into the pertinent issues as they arose, thus helping to highlight the different contributory factors, such as the introduction of the vaccination programme and varying restrictions and guidance.

This study helps to consolidate previous research by demonstrating how particular pregnancy-related factors relate to uncertainty and anxiety. Several factors have been associated with uncertainty and anxiety during pregnancy, such as previous experience of pregnancy loss (Bayrampour et al., 2018); being considered high-risk (Schmuke, 2019), and being pregnant for the first time (Yuill et al., 2020). Numerous women within this sample made specific reference to their previous experience of pregnancy loss, being considered high-risk and being pregnant for the first time, indicating that these were significant influences in their emotional response to the COVID-19 pandemic.

Perceived mixed messaging from government or health officials can lead to uncertainty, confusion, and fear (Han et al., 2018), which was a feature seeming to amplify the sense of uncertainty and fear within this sample. Lack of trust and confidence in health and risk information was apparent within the findings of this study. A meta-synthesis

regarding risk perception in women with high-risk pregnancies illustrated the need for healthcare professionals to communicate the dynamic nature of concerns without sounding inconsistent (Lee et al., 2013). This was a challenge for health professionals during the pandemic, with rapidly changing knowledge and guidance.

Lee et al. (2013) found that women do not necessarily attach more weight to advice from professionals than they do from trusted family and friends, particularly those who had experience of similar situations. This is interesting in terms of the current study, whereby women appeared to view other Mumsnet users and their lived experience as a valued and trustworthy source of information, advice, and reassurance. Anxiety can affect decision making (Hartley & Phelps, 2012), and for some, Mumsnet acted as a sounding board when navigating difficult decisions.

Abu Sabbah et al. (2022) found that women who were pregnant during the pandemic sought reassurance from various sources, to manage their fear and uncertainty and to seek control. Women within the present study discussed the steps they took to avoid the risk of infection, such as living away from partners or choosing not to go to work. Worry, anxiety, and fear were expressed in relation to accessing antenatal care during the pandemic, with some women wanting to avoid appointments, and others concerned about reduced quality of care. This was echoed in the findings of Abu Sabah et al. (2022) where some women were reluctant to access healthcare due to the risk of contracting COVID-19 and transmitting it to the foetus, and others experienced stress and fear regarding reduced availability of care. Anxiety often leads to risk-averse choices (Hengen & Alpers, 2021), some of which could have potentially adverse physical and psychological implications, if, for example, women avoid seeking medical attention or social support during pregnancy.

Theme two highlighted a common experience of feeling unsupported at work whilst being pregnant during the pandemic. Moreover, numerous women experienced a lack of autonomy or control over the risk they were exposed to at work. This is concerning, as decreased autonomy can have a negative impact on subjective wellbeing (e.g., Delhey, 2010; Welzel & Inglehart, 2010), and physical (e.g., Lun & Bond, 2016; Nguyen et al., 2020) and mental health (e.g., Delbosc & Vella-Brodrick, 2015; Karim et al., 2015).

Frontline healthcare workers faced multiple specific demands during the pandemic, on top of existing high demands, and often lacking resources (Britt et al., 2021). During the pandemic, pregnant essential workers were in the difficult position of being caught between pressures to work and the desire to protect themselves and their babies (Saunders & Hogg, 2020). Several essential workers in this sample discussed the challenges they faced in managing the risk of infection, both in their commute and whilst at work, with the added stressor of feeling unsupported by their employer.

The Maternity Action Report (Bragg et al., 2021) highlighted the uncertainty and distress that women experienced regarding their working conditions and rights during the pandemic, stating that misleading and changing advice and gaps in official guidance during the pandemic resulted in widespread confusion about health and safety requirements. This then led to many pregnant women wrongly being told to work in unsafe environments, and women suffering financially when taking action to avoid these risks. Several women discussed a lack of clear guidance in theme two, which was linked to uncertainty and a lack of control. These findings have illustrated the potential psychological impact of being pregnant (and considered clinically vulnerable to the effects of COVID-19); having a lack of control over working in unsafe environments, with little support and limited information to make informed choices.

In a literature review conducted to clarify the concept of workplace psychological distress (WPD), Mopkins (2022) argued that two antecedents to WPD are a lack of control and low support. Given that these were common features of the experiences for discussion group participants within the present study, workplace psychological distress would appear to be a possible outcome for them. This is concerning as the potential consequences of workplace distress are mental and physical health conditions (Mopkins, 2022). This raises concerns about the impact of such difficulties during pregnancy and following birth, as poor perinatal mental health can impede mother-infant bonding, and may have long-term effects on children's emotional, social, and cognitive development (NHS, 2016).

Theme three highlighted issues related to family life and social support for those who were pregnant during the pandemic. Data from a meta-analysis indicated that low social support is significantly associated with depression, anxiety, and self-harm during pregnancy (Bedaso et al., 2021). As a result of restrictive measures, such as lockdowns and social distancing, access to social support was impeded for pregnant women during the pandemic. Whilst this was imposed at certain timepoints, some women within the present study also limited social contact out of choice, due to the increased risks associated with being in the clinically vulnerable category.

Highlighting the importance of support during pregnancy, Khoury et al. (2021) state that support may act as a protective factor for mental health, particularly for those who appraise the impact of COVID-19 to be more negative, as many of the women in this sample did. Women within this study also highlighted a lack of support in the workplace and from healthcare professionals, which could mean an increased likelihood of mental health difficulties for those who were pregnant during the pandemic.

**Clinical implications**

As indicated by the findings, some pregnant women experienced fear, anxiety, and uncertainty during the pandemic. Using formulation and intervention, clinical psychologists could help women to make sense of their experiences and to alleviate distress. One approach might be Cognitive Behavioural Therapy (CBT), as this can be useful in addressing the difficulties described by women in this sample, namely worry, uncertainty, and fear (Robichaud & Dugas, 2015). CBT can help to reduce anxiety by increasing tolerance of uncertainty, as outlined by Robichaud and Dugas (2015). Techniques to aid this process include psychoeducation, breathing and muscle relaxation training and cognitive restructuring (Wahlund et al., 2020).

Some women reflected on relational challenges and a lack of support. Interpersonal Psychotherapy (IPT) has been shown to be effective in reducing psychological distress during pregnancy and the postpartum period (e.g., Hankin et al., 2023; Lenze & Potts, 2017). In IPT there is an emphasis on the interpersonal context in which psychological difficulties develop (Sockol, 2018). There is a focus on reducing distress, enhancing social support, and improving interpersonal functioning (Stuart & Robertson, 2012). This can be achieved by developing skills such as interpersonal problem solving (Law et al., 2022). It might also be appropriate to make a referral to perinatal psychology services to provide specialist support related to bonding in the postpartum period, for example.

**Limitations**

Data has indicated that within the UK there are variations in anxiety of perinatal women dependent on age, ethnicity, and region (Saunders & Hogg, 2020). The current study did not collect data related to age, ethnicity, or location, consequently, it was unable to explore how these factors may account for differences in experience. This is one potential limitation of the study, associated with collecting data from internet posts. Furthermore, the

methods may have decreased the possibility of accessing the experiences of certain groups. For example, data indicates that Black/Black British respondents were the group least likely to use online forums/support groups (Saunders & Hogg, 2020). Therefore, it is likely that the views of Black/Black British women are under-represented in this study, which is concerning given that pregnant Black British women are known to experience greater health inequalities (Khan, 2021).

## Future research

Further investigation is needed regarding the perinatal experiences of women from ethnic minority backgrounds in the UK during the COVID-19 pandemic. Additionally, future research could focus on whether the steps to reduce disease transmission (restrictive measures) were worthwhile in relation to the psychological risks that social isolation and changes to antenatal care might pose. Moreover, further exploration is needed in relation to how guidance is communicated by government, and then interpreted and implemented by healthcare authorities and employers. This may help to reduce uncertainty, confusion and regional variations resulting in health inequality. Finally, further research could focus on the services which offer online support during pregnancy and particular aspects of online support pregnant women value.

## Conclusion

Capturing the views of women who were pregnant during the COVID-19 pandemic has enabled important insights into factors related to their experience and the potential impacts of these experiences. Collecting data from three timepoints has allowed for a novel exploration of the pertinent issues related to being pregnant during a pandemic, as they arose. The findings have highlighted the additional challenges women faced whilst navigating pregnancy under extraordinary circumstances.

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# Appendices

## Appendix 2-A: Correspondence with Mumsnet

To: contactus@mumsnet.com Wed 23/03/2022
Hello there,

I am a trainee Clinical Psychologist at Lancaster University. As part of my doctoral thesis, I would like to explore the experiences of women who have been pregnant during the COVID-19 pandemic. The aim will be to draw out any themes amongst people's experiences of pregnancy during the pandemic; thus, better understanding the implications for women treated by healthcare professionals, including clinical psychologists. I am writing to ask permission to use forum comments related to this matter. All comments used within the thesis will be anonymised.

Many thanks in anticipation,

Sarah Hilton
Trainee Clinical Psychologist
Lancaster University

From: hs_report_post@mumsnet.com
CC: contactus@mumsnet.com Wed 23/03/2022
**This email originated outside the University. Check before clicking links or attachments.**
Hi Sarah,
Yes, that sounds fine - if you need to post on the site, then there's more info below.
Best,
Michael.
MNHQ

Thanks for contacting us about this - and for thinking of Mumsnet with regard to your research, which sounds really interesting.

Please acknowledge Mumsnet in the sources and keep the posters' identity anonymous (ie please don't use identifying details or their real life or usernames).

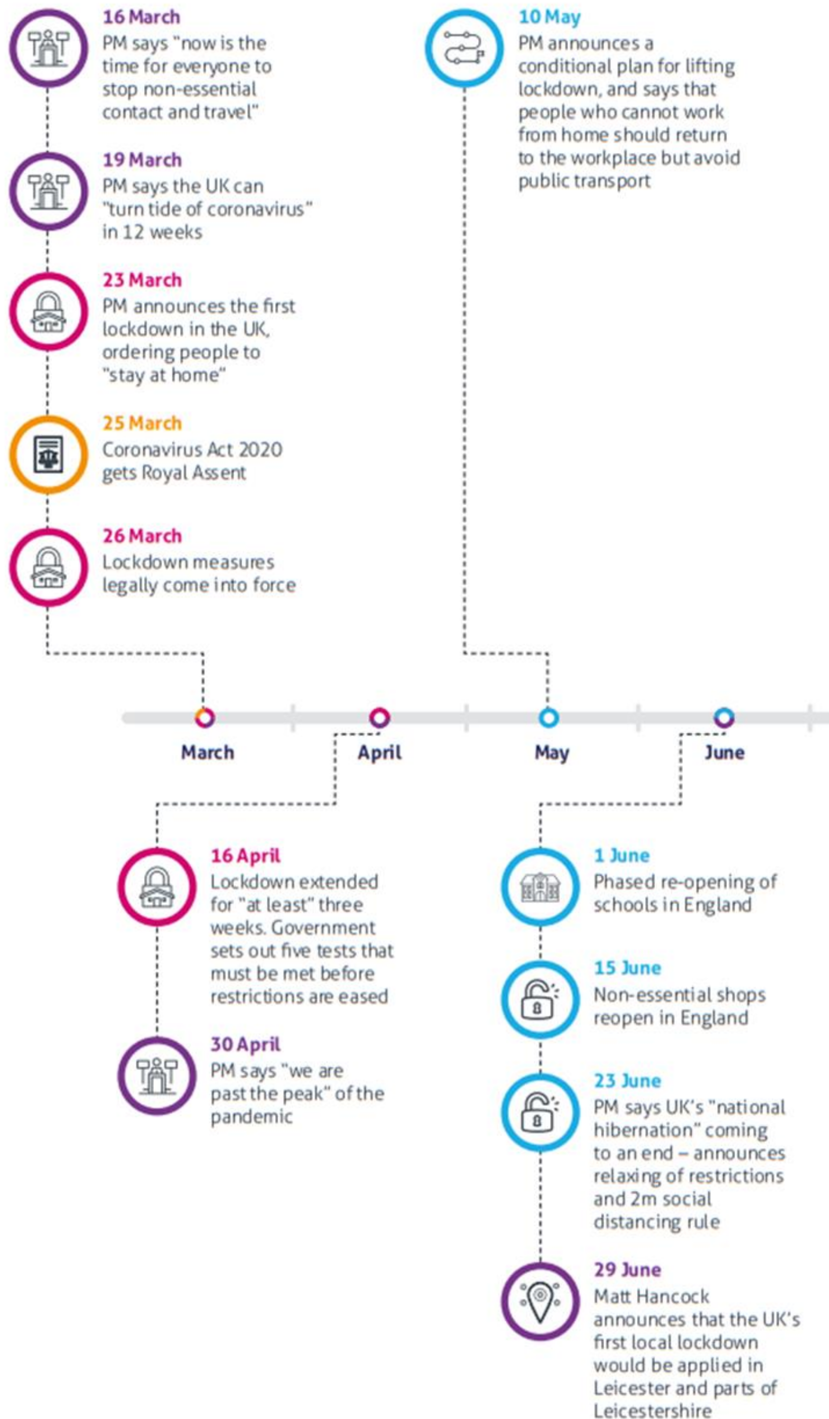
Please put your request in our Surveys/Students/Nonprofits topic: www.mumsnet.com/Talk/surveys_students_non_profits_and_start_ups

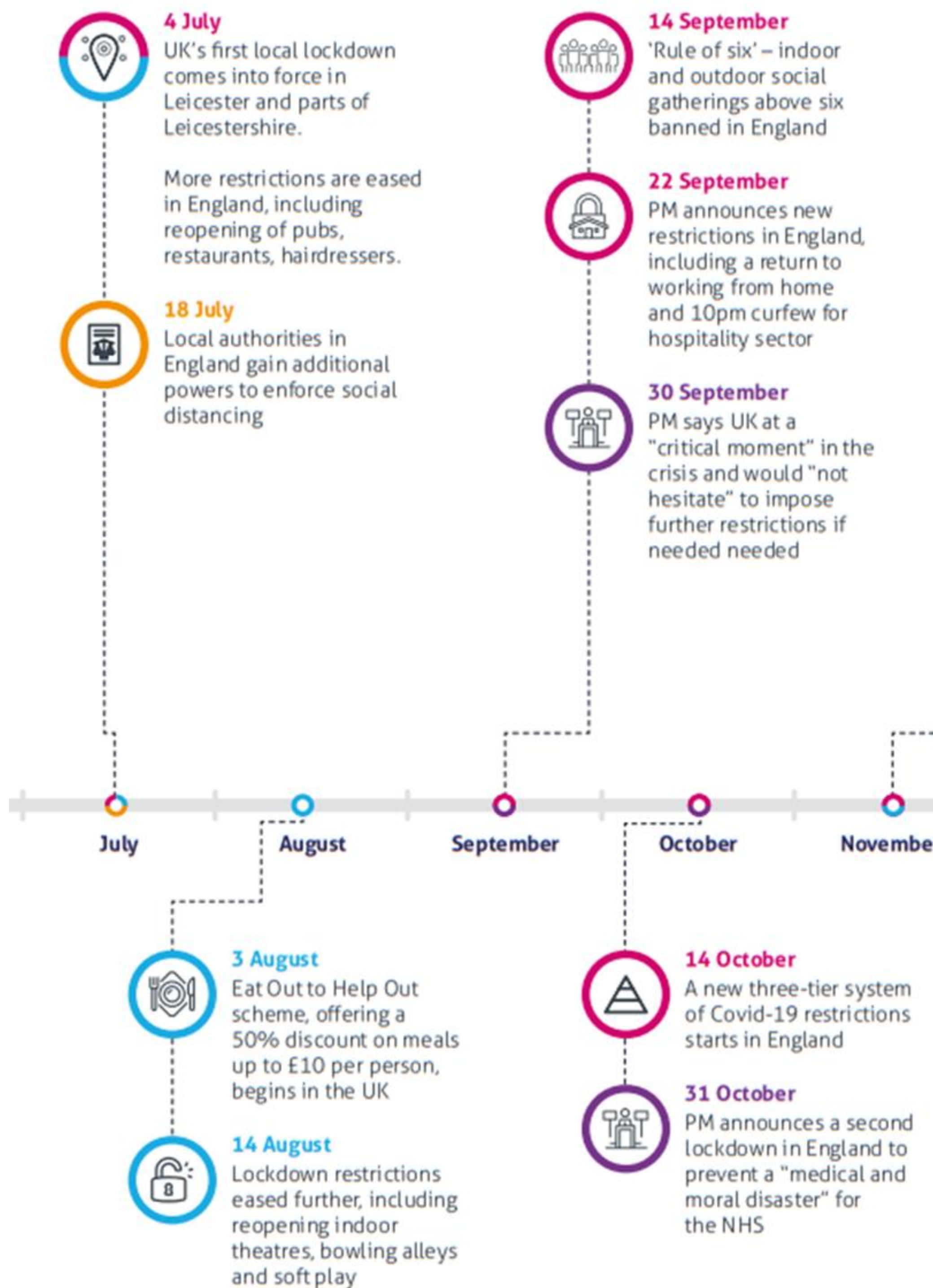
We don't allow research to be conducted anywhere else on our site, though as long as you didn't start a thread, you're free to quote our site as long as Mumsnet is credited. What this means is that if parents are already discussing something relevant to your needs on our site, you can quote from their threads, but not start one yourself with the purpose of eliciting responses.

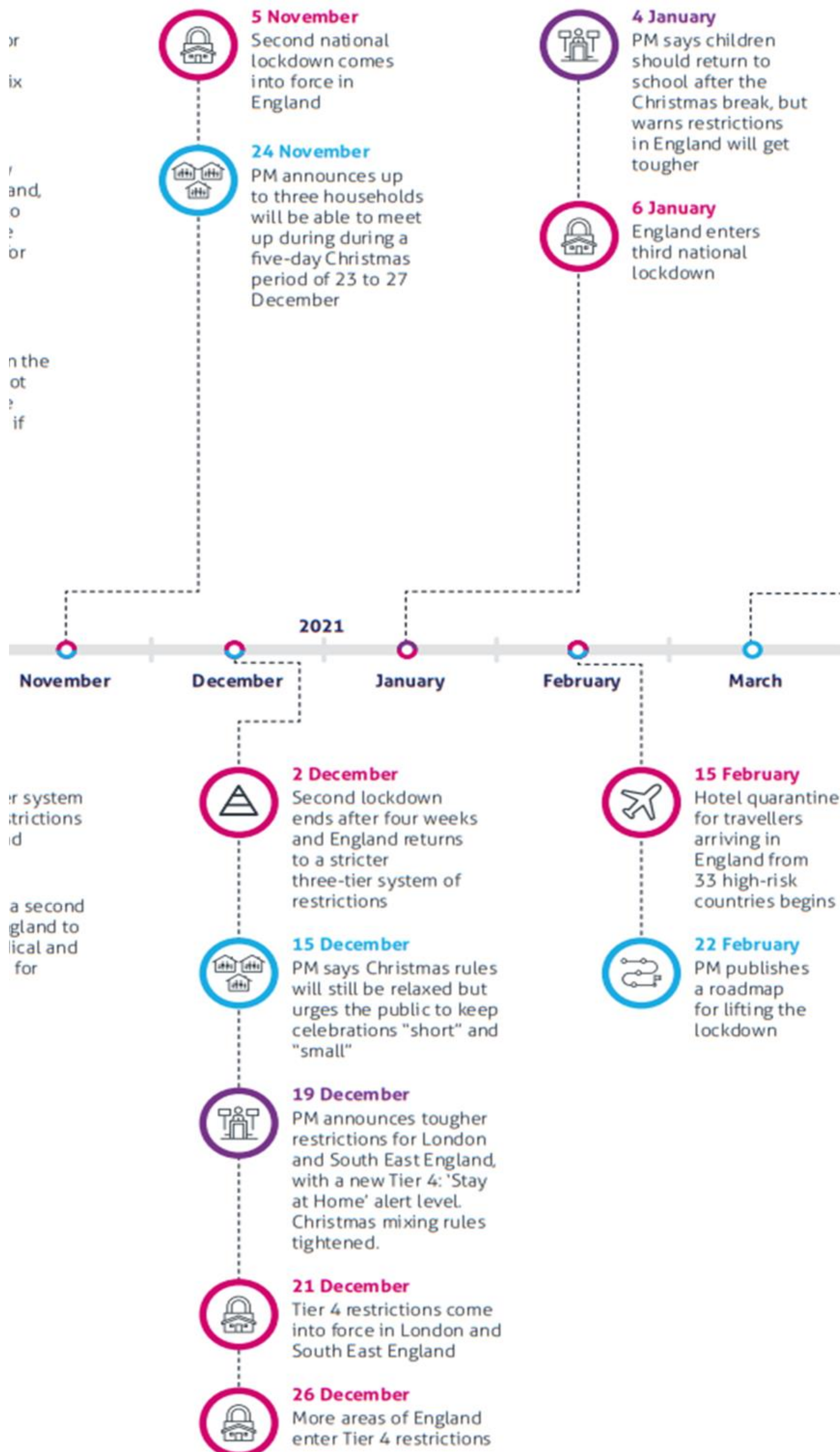
We wish you the very best of luck with it.

Best wishes,
MNHQ

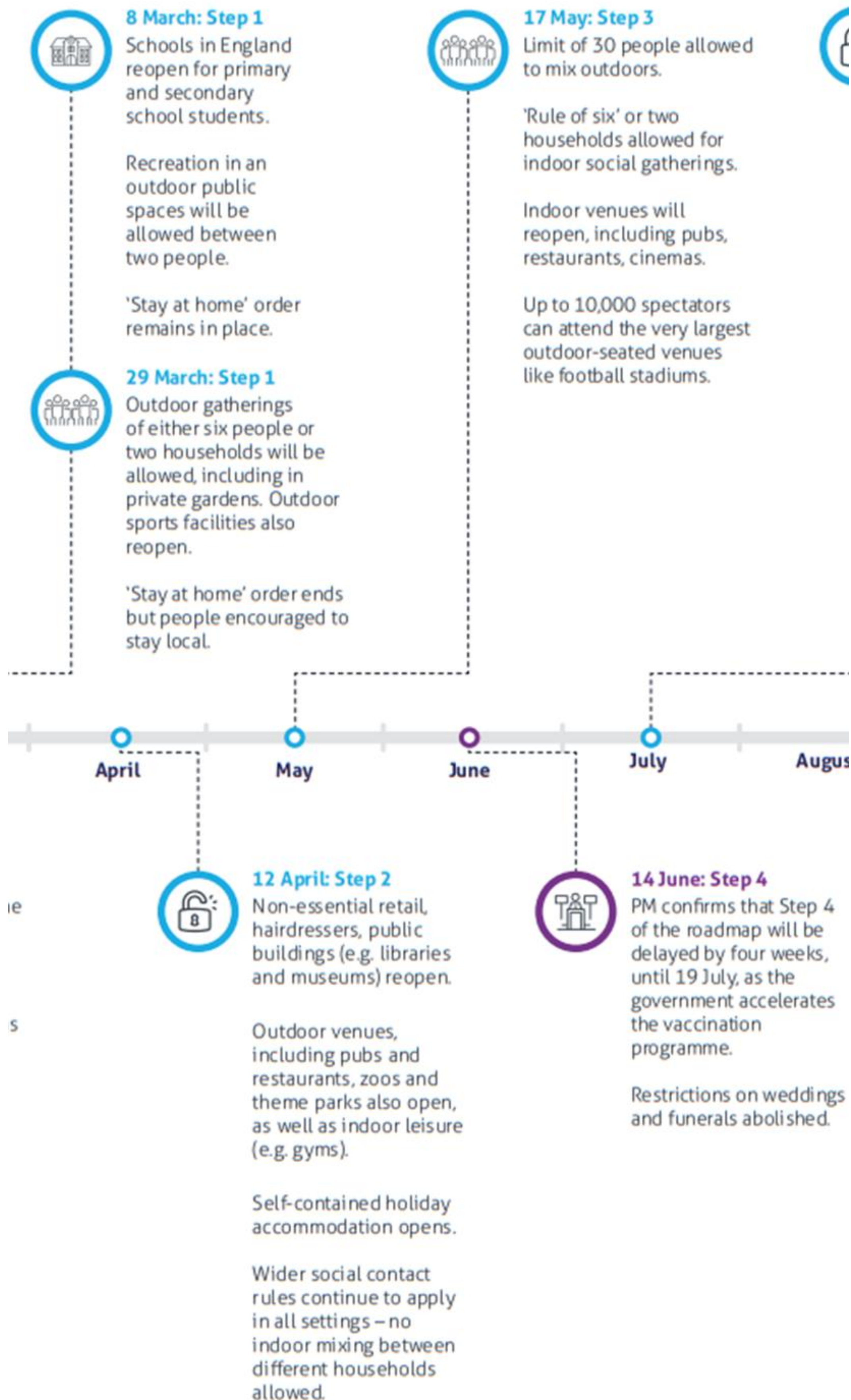
**Appendix 2-B: Timeline of UK government coronavirus lockdowns and measures, March 2020 to December 2021 (Institute for Government, 2022).**




4 July
UK's first local lockdown comes into force in Leicester and parts of Leicestershire.
More restrictions are eased in England, including reopening of pubs, restaurants, hairdressers.
18 July
Local authorities in England gain additional powers to enforce social distancing
14 September
'Rule of six' – indoor and outdoor social gatherings above six banned in England
22 September
PM announces new restrictions in England, including a return to working from home and 10pm curfew for hospitality sector
30 September
PM says UK at a "critical moment" in the crisis and would "not hesitate" to impose further restrictions if needed needed
July
August
September
October
Novembe
3 August
Eat Out to Help Out scheme, offering a 50% discount on meals up to £10 per person, begins in the UK
14 August
Lockdown restrictions eased further, including reopening indoor theatres, bowling alleys and soft play
14 October
A new three-tier system of Covid-19 restrictions starts in England
31 October
PM announces a second lockdown in England to prevent a "medical and moral disaster" for the NHS



5 November
Second national lockdown comes into force in England
24 November
PM announces up to three households will be able to meet up during during a five-day Christmas period of 23 to 27 December
4 January
PM says children should return to school after the Christmas break, but warns restrictions in England will get tougher
6 January
England enters third national lockdown
2021
November
December
January
February
March
2 December
Second lockdown ends after four weeks and England returns to a stricter three-tier system of restrictions
15 December
PM says Christmas rules will still be relaxed but urges the public to keep celebrations "short" and "small"
19 December
PM announces tougher restrictions for London and South East England, with a new Tier 4: 'Stay at Home' alert level. Christmas mixing rules tightened.
21 December
Tier 4 restrictions come into force in London and South East England
26 December
More areas of England enter Tier 4 restrictions
15 February
Hotel quarantine for travellers arriving in England from 33 high-risk countries begins
22 February
PM publishes a roadmap for lifting the lockdown


8 March: Step 1
Schools in England reopen for primary and secondary school students.
Recreation in an outdoor public spaces will be allowed between two people.
'Stay at home' order remains in place.
29 March: Step 1
Outdoor gatherings of either six people or two households will be allowed, including in private gardens. Outdoor sports facilities also reopen.
'Stay at home' order ends but people encouraged to stay local.
17 May: Step 3
Limit of 30 people allowed to mix outdoors.
'Rule of six' or two households allowed for indoor social gatherings.
Indoor venues will reopen, including pubs, restaurants, cinemas.
Up to 10,000 spectators can attend the very largest outdoor-seated venues like football stadiums.
April
May
June
July
12 April: Step 2
Non-essential retail, hairdressers, public buildings (e.g. libraries and museums) reopen.
Outdoor venues, including pubs and restaurants, zoos and theme parks also open, as well as indoor leisure (e.g. gyms).
Self-contained holiday accommodation opens.
Wider social contact rules continue to apply in all settings – no indoor mixing between different households allowed.
14 June: Step 4
PM confirms that Step 4 of the roadmap will be delayed by four weeks, until 19 July, as the government accelerates the vaccination programme.
Restrictions on weddings and funerals abolished.

**19 July: Step 4**
Most legal limits on social contact removed in England, and the final closed sectors of the economy reopened (e.g. nightclubs).

**8 December**
PM announces a move to 'Plan B' measures in England following the spread of the Omicron variant.

**10 December**
Face masks become compulsory in most public indoor venues under Plan B.

**15 December**
NHS Covid Pass becomes mandatory in specific settings, such as nightclubs under Plan B.

**14 September**
PM unveils England's winter plan for Covid – 'Plan B' to be used if the NHS is coming under "unsustainable pressure", and includes measures such as face masks.

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**Appendix 2-C: Example of theme development**

| Example quotes | Codes | Themes |
|---|---|---|
| I'm terrified of getting Covid (MN1)<br><br>I'm just so terrified to go to my hospital (MN2)<br><br>I'm worried I'll receive different care (MN3)<br><br>I'm now becoming increasingly anxious about whether I should arrange to have the vaccine (MN6)<br><br>I'm terrified the baby will have complications or become unwell (MN15) | Fear of infection<br><br>Fear of attending hospital<br><br>Worry about changes to healthcare<br><br>Anxiety regarding the vaccine<br><br>Fear for baby's health | Health-related worry, anxiety, and fear |
| I'm staying at home as don't wanna risk going to my job (MN16)<br><br>My feeling is I should be moved to another ward but unsure if I can insist on this (MN19)<br><br>They have had many many cases and seem unable to stick to any rules regarding social distancing or covid guidelines (MN22)<br><br>My manager doesn't really seem to care (MN23) | Going to work is risky<br><br>Unsure of rights<br><br>Workplace not following rules | Reduced safety and choice at work |

| | Unsupportive manager | |
|---|---|---|
| This is what we have been working towards for such a long time and we are both so happy, but I feel really scared and alone (MN27)<br><br>His family are all assuming he's not coming to the birth and that I will live with my mum for a week after. But a week! I'm guessing newborns can change a lot in that time, I'd be so sad for him to miss that time with her (MN28)<br><br>I don't want to stop them from seeing each other but at the same time am so scared the kids will catch something and be really poorly or they will give me the virus and potentially affect the pregnancy (MN29)<br><br>Just tested positive, caught it from my covid denying in laws (MN33)<br><br>I caught it from my husband…we couldn't isolate from each other in our home… (MN34) | Feeling alone living away from partner<br><br>Attending the birth is a threat to partner with underlying health condition<br><br>Co-parenting and risk of transmission<br><br>Family as a source of transmission<br><br>Inability to isolate within the home | Family: connection versus threat |

**Appendix 2-D: Author guidelines for Journal of Reproductive and Infant Psychology**

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## Chapter 3: Critical Appraisal

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Word count: 3940 (Excluding references, appendices, tables, and figures)

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## Critical Appraisal

The aim of this critical appraisal is to expand on some of the pertinent issues arising from the research, that space constraints within the main text did not allow. I will begin with a brief overview of the findings from the systematic review and the research paper. I will then primarily focus on providing further reflections on several aspects of the research paper. Firstly, I will discuss my relationship to the topic, outlining my personal reflexivity and theoretical assumptions. I will then offer further reflections on the research methodology and findings. Finally, I will also share my reflections on the connection between some of the research paper and systematic review findings. Strengths, limitations, and potential future research projects will be considered throughout.

### Overview of findings

The findings of the systematic literature review demonstrated the impact of restrictive measures on parents' experiences of having a baby in NICU during the COVID-19 pandemic. Some NICUs prohibited parents from visiting altogether, whereas others limited visitation. These restrictions made the process of bonding and attachment more challenging. Whilst parents found the experience of being separated from their babies distressing, they also experienced concern around protecting their babies from infection (which separation/limited contact was thought to aid). The way in which information was communicated to parents also impacted on their experience of having a baby in NICU, with unclear and inconsistent messages resulting in frustration and confusion. Due to the pandemic, usual coping and support strategies were impeded and parents had to make adaptations, such as developing their own peer support groups. These findings highlight important considerations for policy

makers and health and psychological services regarding the care that is offered to parents within NICU and following discharge, particularly in the event of future pandemics.

The findings from the research paper revealed several factors which impacted on women's experiences of pregnancy during the COVID-19 pandemic. Worry, anxiety, and fear were common emotions for pregnant women in this sample. These emotions were primarily linked to contracting COVID-19, receiving the COVID-19 vaccine, and accessing antenatal care. However, several other factors influenced this experience such as previous pregnancy loss, being considered high-risk, whether it was a first pregnancy, COVID-19 transmission rates, and a perceived lack of/conflicting information. Women also experienced work-related difficulties, such as a lack of support, autonomy, or control over the risk they were exposed to in the workplace. In addition, women experienced difficulties related to family life and social support, such as spending time away from their partners to reduce the risk of transmission. The findings of the research paper highlight several implications for health and psychology services, as well as employers and policy makers.

**Relationship to the research paper topic**

When conducting research, the need to acknowledge researcher bias has been well documented (e.g., Morrow, 2005; Gao, 2020). However, in their recent paper, Braun and Clarke (2022) outline that reflexive thematic analysis is inherently subjective and interpretive, and meaning is not fixed within data, but constructed by the researcher in the coding process. In addition, they argue that the concept of researcher bias is based in positivism, and rather than commenting on bias, researchers using thematic analysis should alternatively discuss their personal reflexivity within the analytic process.

Therefore, it is important to note my personal connection to the research paper topic. Specifically, I became pregnant with my second child in May 2020 and gave birth in

February 2021. For context, The World Health Organisation (2020) officially declared a global pandemic just two months prior to me becoming pregnant. During my pregnancy I experienced three national lockdowns: March-May 2020; November-December 2020; January-February 2021. There was in fact a national lockdown at the time I gave birth.

Consequently, given my personal experience, I can relate to some of the experiences and emotions expressed in the findings of the research paper. Although I did not experience any work-related difficulties, I could identify with the experiences outlined in the first and third theme. I certainly experienced worry and fear regarding the potential impact of COVID-19 on my pregnancy and how the pandemic may impact access to healthcare and my birth plan. Related to this, I was also concerned about transmission within the family.

Throughout the research process I kept a reflexive journal, which allowed me to reflect on my personal reactions to the data and to reflect on how this might influence the construction of the interpretations I made. Moreover, I shared data and ideas pertaining to theme development with my research supervisors, which helped to ensure that the development of themes and interpretations reflected the data as accurately as possible.

Braun and Clarke (2022) also recommend that researchers acknowledge their theoretical assumptions as this too can influence the research process and how themes are constructed. Therefore, I will outline the main assumptions that I believe bear most relevance to the way in which I conducted and reported this research. Firstly, I have an appreciation of the biopsychosocial model in mental health, which considers an interaction between biological, psychological, and social factors in the development of mental health difficulties (Wade & Halligan, 2017). However, I feel particularly strongly about the role of societal and systemic factors in contributing to or perpetuating mental health difficulties. As outlined by Hastings et al., (2022), systemic factors encompass political, social, and economic policies

practices and values. Social factors are closely related, including personal resources, education, employment, access to healthcare, inclusive or discriminatory treatment by others.

I also consider relational experiences to be a key aspect within mental health. Specifically, our experiences of relationships can affect how we relate to others, and to ourselves (Gilbert, 2014). There were several relational implications associated with women's experience of being pregnant during the pandemic that I identified in the data. For example, reduced access to healthcare, unclear information and communication, unsupportive employers, and separation from families. I feel that it is important to understand individual difficulties in this wider context, however, I acknowledge that my theoretical assumptions and beliefs about the importance of systemic and social factors may have influenced me identifying this as a theme within the data.

Within my work I subscribe to a Trauma Informed Care approach. Trauma Informed Care considers a person's life experiences, and what has happened to them rather than what is wrong with them (Sweeney & Taggart, 2018). Adverse childhood experiences can influence the development of mental health difficulties in later life (McLaughlin et al., 2012) and it is my belief that systems around the child (and family) have a responsibility to mitigate against the causes and effects of childhood trauma wherever possible. Therefore, with the pandemic in mind, I feel that there is a responsibility for policy makers and healthcare providers to be mindful of imposing measures that could result in traumatic experiences for children (and adults), and to consider the potential longer-term psychological impact of such decisions.

People with a history of trauma can become distressed or re-traumatised due to healthcare experiences (Reeves, 2015). Trauma Informed Care involves organisational and clinical changes to improve patient engagement, health outcomes, provider, and staff wellbeing, and decrease the need for utilisation of services (Menschner & Maul, 2016). It is

likely that my belief in a Trauma Informed Care approach has influenced the recommendations that I made regarding improving communication between policy makers, healthcare professionals and individuals.

I feel that there is an association between my theoretical assumptions and my worldview, in particular my strong feelings regarding the importance of inclusion, equal rights, and social justice; perhaps further explaining my focus on how policy and systems could change, rather than individuals. Considering my beliefs, I feel it is highly unfortunate that this research is likely to have not incorporated the views of minority ethnic individuals, nor has it encompassed the experiences of same gender couples, or non-birthing mothers, for example. These groups tend to be under-represented within research (Bower-Brown, 2022) and my research has the same limitation.

In the research paper, this was largely influenced by the data collection method and the demographics of users who access the website that was used to collect data. This has likely introduced bias into the data. Data from the Office for National Statistics (ONS) suggests that certain minority ethnic groups experienced a greater negative impact of the COVID-19 pandemic on their mental health (ONS, 2020). Therefore, it is possible that these groups have had unique experiences associated with the pandemic, which are not reflected in my research.

I must also note that within the systematic review I included 'non-professional carers' as I did not want to exclude the experiences of carers, who would not typically be referred to as mother or father within the literature. For example, some trans and non-binary parents reject the gendered parenting titles of mum and dad (Bower-Brown, 2022), and some children may be cared for by a foster carer or a family member, for example. Thus, by including non-professional carers I was attempting to encompass the experiences of individuals that do not

typically fit with the nuclear family model. However, unfortunately, all papers included the experiences of parents (specifically mothers and fathers), except for one paper which included one grandfather (Mc Culloch et al., 2022). When conducting research in the future, I will certainly be more mindful of how the research question and data collection method could further alienate marginalised groups, whose experiences may well be different, and whose voices need to be heard.

## Reflections on research paper findings

### *Health-related worry, anxiety, and fear*

I feel that the emotions outlined in theme one are perfectly understandable given the circumstances at the time. My personal view is that within psychology there is a danger of pathologising emotions that arise from social circumstances and stressors. I feel that Compassion Focussed Therapy (Gilbert, 2014) offers a helpful and validating framework to understand the emotions expressed within this theme, by offering an explanation of functional emotional systems (e.g., to respond to threat and to seek safety). COVID-19 was a very real threat, thus in my view, worry, anxiety and fear were functional responses.

However, I do appreciate that some people find diagnoses helpful. Some women spoke specifically about anxiety, which can be a diagnosable mental health condition. Without knowing about their history, pre-existing mental health difficulties, or without completing measures of anxiety, it is hard to know if this experience of anxiety would have been clinically significant or met diagnostic threshold. On the other hand, some women described worry, which in itself is not enough to constitute generalised anxiety disorder (Wells, 2010). Consequently, I felt compelled to include ‘worry, anxiety, and fear’ in the theme title as I wanted to encompass the feelings described by the individuals as accurately as possible. However, staying too close to the data may have inhibited interpretive power.

Another researcher may have made different interpretations or conclusions, based on their own theoretical orientation. For example, one recent paper investigating worry and anxiety stressed the importance of understanding cognitive processing, using terms such as 'poor attention control'; 'excessive' worrying; 'cognitive predictors'; and 'cognitive risk factors' (Feng et al., 2022). This highlights how theoretical orientation can impact on how research is presented, and the attention that is given to particular aspects of the data.

There are thought to be individual differences in terms of tolerance levels for certainty. People who have higher intolerance of uncertainty are considered more likely to hold catastrophic beliefs about uncertainty, thus potentially leading to unhelpful emotional and behavioural consequences (Herbert & Dugas, 2019). Taking this into consideration, a cognitive behavioural approach could be a helpful intervention for such individuals, and I could have perhaps discussed this in more detail within the paper. However, rather than simply focussing on the individual, Hillen et al. (2017) suggest the need to consider multifactorial influences on uncertainty tolerance, for example, patient-clinician communication; informational, emotional, and relational support; community and institutional resources, structures, and processes. Moreover, positive mental health outcomes are often too limited to psychological adaptive systems (e.g., self-regulation and cognitive coping strategies), but for these to be effective, other co-occurring systems need to be robust enough to support them (e.g., family, housing, environment) (Oshri et al., 2018).

***Reduced safety and choice at work***

The findings outlined in theme two demonstrated the impact of feeling unsupported and lacking autonomy in the workplace; thus, further highlighting the influence of wider social and systemic issues on wellbeing. As this theme was centred around feeling unsupported, unsafe, and lacking autonomy, much of the discussion focussed on these issues.

However, I feel that there are other important considerations to bear in mind, in relation to pregnancy, employment and the pandemic.

Several recent papers have commented on how the COVID-19 pandemic has exacerbated existing gender and health inequalities. Fisher and Ryan (2021) asserted that gendered expectations of women remain regarding being expected to perform most of the domestic and care work, thus with many widespread closures of childcare and education settings, women faced increased demands regarding being the primary caregiver at home but also being productive at work. Therefore, the pandemic brought additional challenges for many women regarding their experiences of employment, childcare, home-life, and finances.

I feel that the current research has helped to highlight such inequalities. Numerous pregnant women spoke of their experience working in frontline caring roles during the pandemic. Frontline health workers are mainly female (George, 2008), thus women were more likely to be exposed to risk, and this risk was heightened for the women in this sample, given those who were pregnant were considered to be at an increased risk of complications from COVID-19. In my view, psychologists can have an important role in raising awareness about such issues and influencing employers and policy makers about potential psychological implications arising from these experiences.

***Family: connection versus threat***

Within this theme women spoke about living away from partners, co-parenting, childcare responsibilities, and the wider family posing a threat of transmission. The potential for relationships to come under strain during the pandemic was noted by Pietromonaco and Overall (2022) who proposed that stressors such as social distancing, home confinement whilst managing increased demands (e.g., work/childcare), and a lack of control could impact on relationship stability. Moreover, the pandemic made it more challenging for couples to

maintain their independence whilst also preserving connection and closeness (Feeney & Fitzgerald, 2022).

It is important to consider the potential relational consequences arising from the pandemic, particularly for those bringing a baby in to the world. In some cases, living away from partners was a personal choice. However, separation from partners was also enforced (e.g., not being permitted to attend antenatal appointments). In the event of a future pandemic, more consideration is needed regarding the potential psychological and relational outcomes. Further investigation in to how the pandemic affected relationships amongst couples during the perinatal period may help to provide avenues of support if a pandemic were to arise again.

## Methodological considerations

### *Data collection*

At the time of proposing this study and seeking ethical approval, COVID-19 restrictions were still in place. Consequently, data collection via interviews was considered too challenging. Additionally, the British Psychology Society (2020) advised that those on the clinical psychology doctorate should consider alternative means of collecting data during the pandemic (e.g., online). It was thought that collecting data via Mumsnet would allow for a real time account, over the course of the pandemic, as opposed to one snapshot in time, or a viewpoint influenced by hindsight. I feel that the data collection method did allow a unique insight into the experiences of pregnant women across the pandemic and sets this research aside from others conducted in the field. Another additional benefit of this method was that my presence did not influence the data in the same way that an interview or focus group might. However, one downside to this approach was being unable to ask follow-up questions

or to account for individual characteristics or contextual factors, unless they were explicitly stated.

***Data analysis***

In terms of the analysis, there were other possible methods I could have applied, such as content analysis. Although content analysis is a particularly useful method for analysing written data, it is often used when the researcher has pre-existing ideas about what they may expect to find in the data, or, if there is a particular theory they wish to explore. Grounded theory (Glaser & Strauss, 1967) could have also been an option given the inductive nature of this methodology, and that the research does not need to be based on preconceived ideas and theories. However grounded theory is concerned with discovering or constructing theory (Chun Tie, 2019), which was not the objective of this project. Thematic analysis is a useful method for examining the perspectives of research participants, identifying similarities or differences in experience, and summarising key features (King, 2004). This was deemed to be more fitting with the research objectives of the current study.

I chose this topic as I felt intrigued to learn about the experiences of other women who were pregnant during the COVID-19 pandemic. I was particularly interested in how pregnant women responded to this novel situation, their interpretations, their concerns and how they coped. I wanted to see what findings emerged from the data, rather than relying on frameworks identified by previous research. Therefore, I took an inductive approach when conducting the thematic analysis.

An alternative deductive approach that I considered using was focusing the analysis on identifying data at the individual psychological level (of the biopsychosocial model), for example, through discussion of tolerance of uncertainty and potential coping strategies. Uncertainty provokes fear, worry, anxiety, perceptions of vulnerability and avoidance of

decision making (Hillen et al., 2017), which was observed within the data. Intolerance of uncertainty is considered to be an underlying fear of the unknown (Carleton, 2012), and there were indeed many unknowns for those who were pregnant during the pandemic.

However, I opted not to take this approach, as an inductive analysis is content driven, thus staying close to the data and arguably more adept at discerning reasons behind phenomena than a deductive approach (Guest et al., 2011). Whereas it is thought that using a deductive approach can restrict the researcher's ability to innovatively develop themes (Snelgrove, 2014). I believe that using an inductive approach has supported the development of novel findings, and allowed the participants voices and experiences to have a greater influence on shaping these findings than if I were to have adopted a deductive approach, which would have been influenced by the framework adopted.

***Development of themes***

A substantial amount of discussion on Mumsnet was based on practical information with little emotional content, particularly during the second timeframe where the vaccination programme was a dominant topic. As this thesis needs to bear relevance to the field of clinical psychology, and due to the experiential focus of the research question, psychological aspects of experience were prioritised when considering theme development. This meant that although vaccine/vaccines/vaccination were dominant terms within timeframe two, a lot of this data did not contribute to the final theme, as the emotional undercurrents would have been missed. However, this clearly indicates that Mumsnet is used for a variety of reasons, with information sharing being one (Croucher et al., 2020).

Many women also explicitly stated that they were looking to other Mumsnet users for reassurance. Some women may have found it to be validating and supportive, and to help them feel less isolated during the pandemic, when access to healthcare and support was

reduced. I feel that it would be beneficial to further explore the use of peer support within such sites and whether this could be enhanced in any way, for example through dedicated spaces for sharing evidenced based psychological resources (perhaps moderated by a psychologist). During the pandemic this could have been particularly useful, when there was limited social support and access to services, yet people were struggling psychologically.

**Reflections on the connection between systematic review and research paper findings**

Finding a systematic review topic that was complementary to the research paper, with a suitable number of studies was somewhat challenging. When I settled on the topic of parents and non-professional carers experiences of having a baby in NICU during the pandemic, I was not expecting such an overlap in findings with the research paper. In particular, information and communication during the pandemic was a key aspect of individuals' experience, both for those who were pregnant and those who had a child in NICU. An 'infodemic' has been said to have accompanied the pandemic, meaning that there was excessive information, including false or misleading information in digital and physical environments, which led to confusion and mistrust in health authorities (WHO, 2023).

Media reports caused anxiety and distress amongst many individuals, potentially resulting in information avoidance, thus undermining compliance with preventative measures (Siebenhaar et al., 2020). The content and dissemination of information is a key consideration when considering crisis management, such as in a global pandemic. The findings of the present research have highlighted how healthcare staff were also unsure of the advice and changing guidance, which potentially heightened confusion, a lack of trust and ineffective communication.

The systematic review highlighted inconsistencies in information and communication, which was also present within the research paper. However, the systematic review helped to

demonstrate particular aspects of communication that parents considered to be helpful, which could help to inform practice. The review also helped to outline the difficulties experienced by fathers, such as feeling overlooked, unheard, and as though their needs did not matter. This could have implications on an individual and relational level and warrants further exploration.

Relational challenges were present in both the research paper and the systematic literature review, and support was also a key consideration. Peer support was clearly a valuable resource for many during the COVID-19 pandemic, with pregnant women turning to Mumsnet, and parents within NICU developing their own peer support networks. One particularly interesting finding was how peers placed trust in each other to provide support, even in the absence of any expertise or training. Further exploration is needed into the specific aspects of peer support that people do or do not value, which could further enhance their experience.

Within the systematic review, data synthesis identified that separation from infants was a considerable source of distress amongst parents. Families who were pregnant also experienced separation, such as partners not being able to attend antenatal appointments or the birth. This clearly has implications given what is known about the importance of attachment. For example, early social interaction between the caregiver and the infant affects the cognitive and socio-emotional development of the infant (Karakas & Dagli, 2019) and relationships in later life (Esposito et al., 2017). However, I feel there is a danger of viewing attachment through a deterministic lens, whereby it is assumed that interruptions to the attachment process result in infants being destined for poor socio-emotional development and problematic relational styles. Yet, despite this caveat, from a clinical psychology perspective separation of parents and infants can have adverse emotional consequences, thus it is a crucial consideration when developing policies and providing care.

## Conclusion

Although there were some limitations in terms of representation within these studies, I do feel that on the whole they provide important insights into the factors influencing experiences of pregnancy and the NICU environment during the COVID-19 pandemic. Moreover, due to the data being multi-geographical and from multiple timepoints throughout the pandemic, I feel that this helps to emphasise the scale of the difficulties outlined in the findings of these studies. Therefore, the findings have helped to highlight how broader scale changes may help to improve experiences for these populations if a pandemic were to arise again.

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**Chapter 4: Ethics Section**

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Doctorate in Clinical Psychology

Division of Health Research,

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Word count: 5212 (Excluding references)

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Prepared for submission to: *Journal of Reproductive and Infant Psychology*

**Lancaster University Faculty of Health and Medicine Research Ethics Committee**

**(FHMREC) application**

*This form should be completed by PGR students together with the supervisor in all cases, and by staff whose project has NOT been costed on ACP*

**Governance checklist**

**Introduction**

Please complete all sections (1 to 4) below. If none of the self-assessment items apply to the project then you do not need to complete any additional LU ethics forms.

Further information is available from the FREC webpage

Note: The appropriate ethics forms must be submitted and authorised to ensure that the project is covered by the university insurance policy and complies with the terms of the funding bodies.

**Name**: Sarah Hilton **Department**: Doctorate in Clinical Psychology
**Title of Project**: Experiences of pregnancy during the COVID-19 pandemic: A thematic analysis **Supervisor** (if applicable): Dr Craig Murray and Dr Jen Davies

**Section 1A: Self-assessment**

**1.1** Does your research project involve any of the following?

a. Human participants (including all types of interviews, questionnaires, focus groups, records relating to humans, use of internet or other secondary data, observation etc)
b. Animals - the term animals shall be taken to include any non-human vertebrates or cephalopods.
c. Risk to members of the research team e.g. lone working, travel to areas where researchers may be at risk, risk of emotional distress
d. Human cells or tissues other than those established in laboratory cultures
e. Risk to the environment
f. Conflict of interest
g. Research or a funding source that could be considered controversial
h. Any other ethical considerations

☒ Yes - complete Section 1B
☐ No - proceed to Section 2

**Section 1B: Ethical review**

If your research involves any of the items listed in section 1A further ethical review will be required. Please use this section to provide further information on the ethical considerations involved and the ethics committee that will review the research.

Please remember to allow sufficient time for the review process if it is awarded. The ethical review process can accommodate phased applications, multiple applications and generic applications (e.g. for a suite of projects), where appropriate; the Research Ethics Officer will advise on the most suitable method according to the specific circumstances.

**1.2** Please indicate which item(s) listed in section 1A apply to this project (use the appropriate letter(s), eg a,c,f)

Items: a

**1.3** Please indicate which committee you anticipate submitting the application to:

☐ NHS ethics committee

☐ Other external committee

☐ LU FASS/LUMS Research Ethics committee

☐ LU FST Research Ethics committee

☑ LU FHM Research Ethics committee

☐ LU AWERB (animals)

**Section 2: Project Information**

This information in this section is required by the Research Support Office (RSO) to expedite your proposal.

**2.1** If the establishment of a research ethics committee is required as part of your collaboration, please indicate below. (This is a requirement for some large-scale European Commission funded projects, for example.)

☐ Establishment of a research ethics committee required

**2.2** If the research involves either the nuclear industry or an aircraft or the aircraft industry (other than for transport), please provide details below. This information is required by the university insurers.

N/A

**Section 3: Guidance**

The following information is intended as a prompt and to provide guidance on where to find further information. Where appropriate consider addressing these points in the proposal.

- If relevant, guidance on data protection issues can be obtained from the Data Protection Officer - see Data Protection website
- If relevant, guidance on the Freedom of Information Act can be obtained from the FOI Officer - see FOI website
- The University's Research Data Policy can be downloaded here
- The health and safety requirements of each research project must be considered, further information is available from the Safety Office website
- If any of the research team will be working with an NHS Trust, consider who will be named as the Sponsor (if applicable) and seek agreement in principle. Contact the Research Ethics Officer for further information
- If you are involved in any other activities that may result in a conflict of interest with this research, please contact the Head of Research Services (ext. 94905)
- If any of the intellectual property to be used in the research belongs to a third party (e.g. the funder of previous work you have conducted in this field), please contact the Intellectual Property Development Manager (ext. 93298)
- If you intend to make a prototype or file a patent application on an invention that relates in some way to the area of research in this proposal, please contact the Intellectual Property Development Manager (ext. 93298)
- If your work involves animals you will need authorisation from the University Secretary and may need to submit an application to AWERB, please contact the University Secretary for further details

- Online Research Integrity training is available for staff and students here along with a Research Integrity self-assessment exercise.

**3.1** I confirm that I have noted the information provided in section 3 above and will act on those items which are relevant to my project.

☒ Confirmed

**Section 4: Statement**

**4.2** I understand that as researcher I have overall responsibility for the ethical management of the project and confirm the following:

- I have read the Code of Practice, Research Ethics at Lancaster: a code of practice and I am willing to abide by it in relation to the current proposal
- I have completed the ISS Information Security training and passed the assessment
- I will manage the project in an ethically appropriate manner according to: (a) the subject matter involved; (b) the code of practice of any relevant funding body; and (c) the Code of Practice and Procedures of the university.
- On behalf of the institution I accept responsibility for the project in relation to promoting good research practice and the prevention of misconduct (including plagiarism and fabrication or misrepresentation of results).
- On behalf of the institution I accept responsibility for the project in relation to the observance of the rules for the exploitation of intellectual property.
- I will give all staff and students involved in the project guidance on the good practice and ethical standards expected in the project in accordance with the university Code of Practice. (Online Research Integrity training is available for staff and students here.)
- I will take steps to ensure that no students or staff involved in the project will be exposed to inappropriate situations.

☒ Confirmed

**Please note:** If you are not able to confirm the statement above please contact Faculty Research Ethics Officer and provide an explanation

**Applicant**

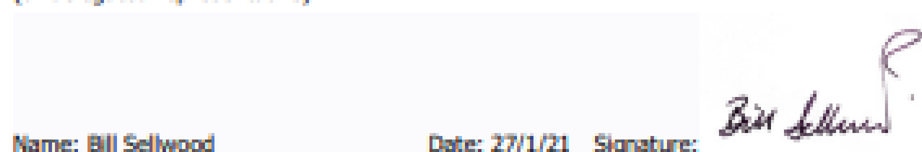
Name: Sarah Hilton Date: 19/01/2021 Signature: Sarah Hilton

***Supervisor (if applicable):**

Name: Craig Murray Date: 27/01/2021 Signature:

**I declare that I have reviewed this application, and discussed it with the applicant as appropriate. I am happy for this application to proceed to ethical review.*

**Head of Department**
(or delegated representative)



Name: Bill Sellwood Date: 27/1/21 Signature:

Health & Medicine | Lancaster University

**drawFaculty of Health and Medicine Research Ethics Committee (FHMREC)**
**Lancaster University**

**Application for Ethical Approval for Research**

*for additional advice on completing this form, hover cursor over 'guidance'*.

**Guidance on completing this form is also available as a word document**

**Title of Project:** Experiences of pregnancy during the COVID-19 pandemic: A thematic analysis

**Name of applicant/researcher:** Sarah Hilton

**ACP ID number (if applicable)*:** N/A **Funding source (if applicable)** N/A

**Grant code (if applicable):** N/A

***If your project has *not* been costed on ACP, you will also need to complete the Governance Checklist [link].**

**Type of study**

☒ Involves existing documents/data only, or the evaluation of an existing project with no direct contact with human participants. **Complete sections one, *two* and four of this form**

☐ Includes *direct* involvement by human subjects. **Complete sections one, *three* and four of this form**

**SECTION ONE**

**1. Appointment/position held by applicant and Division within FHM** Trainee Clinical Psychologist

**2. Contact information for applicant:**
**E-mail:** s.hilton1@lancaster.ac.uk **Telephone:** 07500046837 (please give a number on which you can be contacted at short notice)

**Address:**
Doctorate in Clinical Psychology
Furness College
Lancaster University
Lancaster
LA1 4YG

3. **Names and appointments of all members of the research team (including degree where applicable)**

Dr Craig Murray
Dr Jen Davies

June 2018

**3. If this is a student project, please indicate what type of project** by marking the relevant box/deleting as appropriate: (please note that UG and taught masters projects should complete **FHMREC form UG-tPG**, following the procedures set out on the FHMREC website

PG Diploma ☐ Masters by research ☐ PhD Thesis ☐ PhD Pall. Care ☐

PhD Pub. Health ☐ PhD Org. Health & Well Being ☐ PhD Mental Health ☐ MD ☐

DClinPsy SRP ☐ [if SRP Service Evaluation, please also indicate here: ☐] DClinPsy Thesis ☒

**4. Project supervisor(s), if different from applicant**:
Dr Craig Murray (Research supervisor)
Dr Jen Davies (Field supervisor)

5. **Appointment held by supervisor(s) and institution(s) where based (if applicable)**:
Dr Craig Murray (Research tutor, Lancaster University)
Dr Jen Davies (Clinical Psychologist, Lancaster University)

**SECTION TWO**
**Complete this section if your project involves existing documents/data only, or the evaluation of an existing project with no direct contact with human participants**

1. Anticipated project dates (month and year)
Start date: Feb 2022 End date: Aug 2022

2. Please state the aims and objectives of the project (no more than 150 words, in lay-person's language):
The perinatal period spans pregnancy up to a year following birth. Perinatal mental health difficulties have long term social and economic costs and are closely linked to adverse maternal, neonatal, infant and child health outcomes. Consequently, matters relating to perinatal mental health require attention in research and public policy. Given the importance of perinatal mental health and the wide-ranging impact of COVID-19, this study will aim to explore experiences of pregnancy during the global pandemic.

During imposed isolation due to COVID-19 it is likely that many pregnant women will have turned to online forums to discuss their feelings and experiences. Data will be collected from online forums where discussion threads are specifically related to pregnancy and COVID-19. Highlighting common experiences may help to inform policy makers and healthcare systems about the potential needs of this group in the wake of the pandemic.

**Data Management**
*For additional guidance on data management, please go to Research Data Management webpage, or email the RDM support email: rdm@lancaster.ac.uk*
3. Please describe briefly the data or records to be studied, or the evaluation to be undertaken.
The data will be comments posted to public online discussion forums related to the experience of pregnancy during the COVID-19 global pandemic. The data will be analysed using thematic analysis.

4a. How will any data or records be obtained?
Via public online chat forums.
4b. Will you be gathering data from websites, discussion forums and on-line 'chat-rooms' yes
4c. If yes, where relevant has permission / agreement been secured from the website moderator? no
4d. If you are only using those sites that are open access and do not require registration, have you made your intentions clear to other site users? no

4e. If no, please give your reasons

BPS guidance (2017) highlights the potential for levels of group trust and cohesion to be disrupted when a researcher discloses their intentions to site users.

5. What plans are in place for the storage, back-up, security and documentation of data (electronic, digital, paper, etc)? Note who will be responsible for deleting the data at the end of the storage period. Please ensure that your plans comply with General Data Protection Regulation (GDPR) and the (UK) Data Protection Act 2018.
Data copied from on-line discussion forums will be copied and pasted into word documents for analysis. All real names, email addresses and other personally identifying information will be removed. These documents will be stored on the University approved secure cloud storage where the research supervisors will also be able to access them as part of the analysis process.

The lead researcher and research supervisors will have access to the data during the study and the lead researcher will have guardianship of the stored data. This data will be retained on the secure University server for 10 years.

6a. Is the secondary data you will be using in the public domain? yes
6b. If NO, please indicate the original purpose for which the data was collected, and comment on whether consent was gathered for additional later use of the data.

Please answer the following question *only* if you have not completed a Data Management Plan for an external funder
7a. How will you share and preserve the data underpinning your publications for at least 10 years e.g. PURE?
Following completion of the thesis, data will be transferred to a member of the DClinPsy administrative team using an electronically secure method and retained on the University network. The data will then be preserved according to Lancaster University's Data Policy for 10 years.
7b. Are there any restrictions on sharing your data?
Data will only be accessible to the lead researcher and research supervisor. Data will only be shared upon request. Access will be granted on a case by case basis by the research team for purposes of verifying data collection and secondary analysis leading to publication.

**8. Confidentiality and Anonymity**
a. Will you take the necessary steps to assure the anonymity of subjects, including in subsequent publications?
yes

b. How will the confidentiality and anonymity of participants who provided the original data be maintained?
Pseudonyms will be used and any identifying information will be omitted in order to protect anonymity as far as possible. Data will be stored in a secure location (encrypted memory stick and OneDrive).

9. What are the plans for dissemination of findings from the research?
Upon successful completion of this thesis, the study findings will be available at Lancaster University Thesis Library and may possibly be published in an appropriate academic journal.

10. What other ethical considerations (if any), not previously noted on this application, do you think there are in the proposed study? How will these issues be addressed?
Informed consent in internet-mediated research has been widely debated. The terms of use and privacy policies of the internet forums will be scrutinised by the researcher. However, as with other studies which have utilised data from online forums (e.g. Ellis & Roberts, 2020), it can be assumed that when people communicate in a public domain, there is no reasonable expectation of privacy. In relation to this, undisclosed observation of forum data can be deemed to pose minimal risk to individuals. Moreover, due to the data being derived from a public forum, even after full anonymisation there is a small risk that participants can be identified.

**SECTION THREE**
**Complete this section if your project includes *direct* involvement by human subjects**

1. Summary of research protocol in lay terms (indicative maximum length 150 words):

2. **Anticipated project dates (month and year only)**

Start date: End date

**Data Collection and Management**
*For additional guidance on data management, please go to Research Data Management webpage, or email the RDM support email:* rdm@lancaster.ac.uk

3. Please describe the sample of participants to be studied (including maximum & minimum number, age, gender):

4. How will participants be recruited and from where? Be as specific as possible. Ensure that you provide the *full versions* of all recruitment materials you intend to use with this application (eg adverts, flyers, posters).

5. Briefly describe your data collection and analysis methods, and the rationale for their use.

6. What plan is in place for the storage, back-up, security and documentation of data (electronic, digital, paper, etc.)? Note who will be responsible for deleting the data at the end of the storage period. Please ensure that your plans comply with General Data Protection Regulation (GDPR) and the (UK) Data Protection Act 2018.

7. Will audio or video recording take place? ☐ no ☐ audio ☐ video

a. Please confirm that portable devices (laptop, USB drive etc) will be encrypted where they are used for identifiable data. If it is not possible to encrypt your portable devices, please comment on the steps you will take to protect the data.

b What arrangements have been made for audio/video data storage? At what point in the research will tapes/digital recordings/files be destroyed?

Please answer the following questions *only* if you have not completed a Data Management Plan for an external funder

8a. How will you share and preserve the data underpinning your publications for at least 10 years e.g. PURE?

8b. Are there any restrictions on sharing your data ?

9. Consent

a. Will you take all necessary steps to obtain the voluntary and informed consent of the prospective participant(s) or, in the case of individual(s) not capable of giving informed consent, the permission of a legally authorised representative in accordance with applicable law? yes

b. Detail the procedure you will use for obtaining consent?

10. What discomfort (including psychological eg distressing or sensitive topics), inconvenience or danger could be caused by participation in the project? Please indicate plans to address these potential risks. State the timescales within which participants may withdraw from the study, noting your reasons.

11. What potential risks may exist for the researcher(s)? Please indicate plans to address such risks (for example, noting the support available to you; counselling considerations arising from the sensitive or distressing nature of the research/topic; details of the lone worker plan you will follow, and the steps you will take).

12. Whilst we do not generally expect direct benefits to participants as a result of this research, please state here any that result from completion of the study.

13. Details of any incentives/payments (including out-of-pocket expenses) made to participants:

14. Confidentiality and Anonymity

a. Will you take the necessary steps to assure the anonymity of subjects, including in subsequent publications?

yes

b. Please include details of how the confidentiality and anonymity of participants will be ensured, and the limits to confidentiality.

15. If relevant, describe the involvement of your target participant group in the *design and conduct* of your research.

16. What are the plans for dissemination of findings from the research? If you are a student, include here your thesis.

17. What particular ethical considerations, not previously noted on this application, do you think there are in the proposed study? Are there any matters about which you wish to seek guidance from the FHMREC?

**Applicant electronic signature:** Sarah Hilton                Date 31/01/2021

Student applicants: please tick to confirm that your supervisor has reviewed your application, and that they are happy for the application to proceed to ethical review ☒

**Project Supervisor name** (if applicable): Dr Craig Murray                Date application discussed 18/01/2021

**Submission Guidance**

1. Submit your FHMREC application by email to Becky Case (fhmresearchsupport@lancaster.ac.uk) as two separate documents:
   i. **FHMREC application form.**
   Before submitting, ensure all guidance comments are hidden by going into 'Review' in the menu above then choosing *show markup>balloons>show all revisions in line.*
   ii. **Supporting materials.**
   Collate the following materials for your study, if relevant, into a single word document:
      a. Your full research proposal (background, literature review, methodology/methods, ethical considerations).
      b. Advertising materials (posters, e-mails)
      c. Letters/emails of invitation to participate
      d. Participant information sheets
      e. Consent forms
      f. Questionnaires, surveys, demographic sheets
      g. Interview schedules, interview question guides, focus group scripts
      h. Debriefing sheets, resource lists

   **Please note that you DO NOT need to submit pre-existing measures or handbooks which support your work, but which cannot be amended following ethical review. These should simply be referred to in your application form.**
2. Submission deadlines:
   i. Projects including direct involvement of human subjects **[section 3 of the form was completed]**. The *electronic* version of your application should be submitted to Becky Case **by the committee deadline date.** Committee meeting dates and application submission dates are listed on the FHMREC website. Prior to the FHMREC meeting you may be contacted by the lead reviewer for further clarification of your application. Please ensure you are available to attend the committee meeting (either in person or via telephone) on the day that your application is considered, if required to do so.
   ii. The following projects will normally be dealt with via chair's action, and may be submitted at any time. **[Section 3 of the form has *not* been completed, and is not required].** Those involving:
      a. existing documents/data only;
      b. the evaluation of an existing project with no direct contact with human participants;
      c. service evaluations.
3. **You must submit this application from your Lancaster University email address, and copy your supervisor in to the email in which you submit this application**

**Research Protocol**

# Experiences of pregnancy during the COVID-19 pandemic: A thematic analysis

Sarah Hilton, Dr Craig Murray, Dr Jen Davies

Doctorate in Clinical Psychology

**Background**

In 2020 the world was hit by the COVID-19 pandemic. Whilst most people suffer mild to moderate respiratory illness, older people and those with underlying medical conditions are more likely to become seriously ill (World Health Organisation, 2020). In pregnancy, women's immune systems are supressed thus they are more prone to infections (Shorey & Chan, 2020) and pregnant women have been identified as a 'clinically vulnerable' group with regard to COVID-19 (Department of Health and Social Care, 2021). Research related to pregnancy and previous epidemics has highlighted heightened levels of stress, anxiety, worry and fear (Fakari & Simbar, 2020; Lee et al., 2005; Jeong et al., 2017; Ng et al., 2004). However, little is known about the experiences and needs of those who are or have been pregnant during the COVID-19 pandemic.

The perinatal period spans pregnancy up to one year following birth (British Psychological Society, 2016). Perinatal mental health difficulties are closely linked to adverse maternal, neonatal, infant and child health outcomes (Howard & Khalifeh, 2020) and carry a total economic and social cost of around £8.1 billion per one-year cohort of births in the UK (Bauer, Parsonage, Knapp, Iemmi & Adelaja, 2014). In 2016 the Prime Minister announced greater investment into new specialist mental health services with the ambition of providing care in accordance with the Antenatal and Postnatal Mental Health Guidelines produced by the National Institute of Health and Care Excellence, 2014 (Howard & Khalifeh, 2020).

Risk factors for perinatal mental health difficulties include past history of depression, anxiety, or bipolar disorder, in addition to psychosocial factors, such as ongoing partner conflict, poor social support, and ongoing stressful life events (O'Hara & Wisner, 2014). Recently, researchers have warned that COVID-19 and the associated isolation measures place a greater burden on the emotional wellbeing of women in the perinatal period, following a study which found that almost 50% of 5866 women in the perinatal period experienced symptoms of anxiety or depression during lockdown in

Belgium (Ceulemans, Hompes & Foulon, 2020). With this in mind, women who have been in the perinatal period during the pandemic may require psychological support as a result of their experiences.

Since the start of the pandemic, there have been varying levels of restrictions put in place around the world in order to control the spread of COVID-19. Measures have included social distancing, mandatory face coverings, curfews, national lockdowns and travel bans. Consequently, there have been widespread changes to social networks and the way in which people interact; with such measures posing a risk to mental wellbeing (Razai et al., 2020). Relationships formed online have been found to minimise feelings of isolation (Naslund et al., 2016) and during imposed isolation due to COVID-19 it is likely that many pregnant women will have turned to online forums to discuss their feelings and experiences. Research suggests that two key functions of online pregnancy forums are information exchange and emotional support (Ellis & Roberts, 2020). Moreover, given that there have been changes to the usual accessibility and delivery of healthcare during the COVID-19 pandemic, it is likely that this will have further influenced the decision to turn to online forums.

An increasing number of research studies have utilised data from online forums as analysis material, many of which have used data from forums related to pregnancy and parenthood, such as Mumsnet (e.g. Croucher, Mertan, Shafran, & Bennett, 2020; Pedersen & Lupton, 2018; Jaworska, 2018). Users of such online forums can start a discussion and others can reply to the original post or subsequent comments within the discussion (Holtz, Kronberger & Wagner, 2012). Some forums can be accessed and read by every internet user, whereas others require registration and can only be read by registered users (Holtz et al., 2012). The analysis of forum messages can provide researchers in health related fields with important insights into the needs, opinions and experiences of individuals who use them (Smedley & Coulson, 2018).

Online forums can be considered 'virtual focus groups' where members discuss topics without the presence of a researcher and their potential influence on the data (Moloney, Dietrich, Strickland & Myerburg, 2003). Online discussion forums are useful data sources as

they allow critical psychology researchers to explore everyday spontaneous conversations about particular issues of interest to the researcher (Jowett, 2015). This could provide an advantage over other methods, such as one-to-one interviews. Some researchers have highlighted the lack of verifiable sociodemographic information about forum users as a disadvantage of analysing forum data (Holtz et al., 2012). Whilst I acknowledge this limitation, it can be assumed that users of forums of interest in the present study would be women of child-bearing age who have been pregnant during a pandemic. Moreover, it has been argued that the "real" identities of people behind the post are not as important as the interaction about the representation of the research topic (Jowett, 2015).

Clinical psychology plays a critical role in the delivery of therapy during the perinatal period (Buist, O'Mahen & Rooney, 2015). Moreover, as scientist-practitioners, clinical psychologists have a responsibility to research current issues that can impact on mental wellbeing. From a clinical psychology perspective, online discussions can provide an insight into the thoughts, feelings, experiences and needs of pregnant women during a pandemic. The proposed study will aim to explore the potential psychological impact of the pandemic on women's experiences of pregnancy. It is hoped that a thematic analysis of such content would help to inform perinatal care for women who have been pregnant or given birth during the COVID-19 pandemic. This in turn may help to shape responses to perinatal care in the event of future pandemics.

## Method

### Design

This study will utilise a qualitative design, which lends itself to exploring the subjective experiences of individuals. Data will be derived from online discussion forums related to the psychological impact experiences of pregnancy during the COVID-19 pandemic. Thematic analysis will be used to analyse the data as this allows an exploration of common themes amongst a

target population. Therefore, this design is considered particularly appropriate for the proposed study which will aim to explore the potential psychological impact of the pandemic on women's experiences of pregnancy.

**Materials**

An encrypted memory stick and a secure cloud storage service (OneDrive) will be used to transfer and store data.

**Obtaining data**

The target population will be women who have discussed their experience of being pregnant during the COVID-19 pandemic in an online forum. Material will be deemed relevant if it includes a discussion of thoughts, feelings and experiences related to pregnancy during COVID-19. Multiple forums and discussion threads may be accessed in order to ensure that there is sufficient data to analyse (e.g. until data sufficiency or saturation is achieved). Moreover, the analysis of multiple discussion threads may be more representative of a range of experiences, rather than the experiences of people within one forum alone.

As this study is concerned with the experiences of pregnancy during the COVID-19 pandemic, data will be derived from discussion threads stemming from January 2020 onwards. It may be useful to derive data from numerous time points from the start of the pandemic in order to gain a broader perspective of how varying levels of restrictions may relate to a person's experience. As data will be obtained from online forums and COVID-19 is a global pandemic, forum users may reside in different parts of the UK, or different countries. This will facilitate access to a broad range of views rather than a small group within a specific geographical area or context.

## Procedure

**Proposed analysis**

Thematic analysis will be used to analyse data retrieved from online discussion threads specific to women's experiences of pregnancy during the COVID-19 pandemic. Drawing on guidance set out by Braun and Clarke (2006), I would familiarise myself with the data from the online

discussions. I would code the data and generate themes according to common concerns/experiences. With the research objectives in mind, I would identify themes from a psychological perspective and with a focus on the phenomena being researched (womens' experience of pregnancy during a global pandemic). It is hoped that thematic analysis will allow rich data about individual experience to emerge.

**Practical issues (e.g. costs/logistics)**

There are no cost or logistical issues associated with this research. Online research is COVID safe as there is no risk of transmission between the researcher and participants.

**Ethical concerns**

There are ethical issues related to informed consent when conducting internet-mediated research. However, it can be assumed that there can be no reasonable expectation of privacy when sharing information in a public domain (Ellis & Roberts, 2020). Moreover, undisclosed observation of such data can be deemed to pose minimal risk to individuals. However, the terms of use and privacy policies of the internet forums will be scrutinised by the researcher to ensure that the research is ethical (that the researcher does not contravene any directives to not use the posts in the manner intended).

Pseudonyms will be used and any identifying information will be omitted in order to protect anonymity as far as possible. However, because the information will have been posted in a public domain, there is still a risk that individuals can be identified. In relation to this, the British Psychological Society (BPS) state that "where it is reasonable to argue that there is likely no perception and/or expectation of privacy (or where scientific/social value and/or research validity considerations are deemed to justify undisclosed observation), use of research data without gaining valid consent may be justifiable" (BPS, 2013, p. 7).

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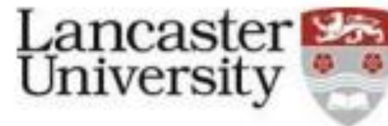
**Lancaster University Faculty of Health and Medicine Research Ethics Committee Approval**




Applicant: Sarah Hilton
Supervisor: Craig Murray, Jen Davies
Department: DHR
FHMREC Reference: FHMREC20098

08 April 2021

**Re: FHMREC20098**
**Experiences of pregnancy during the COVID-19 pandemic: A thematic analysis**

Dear Sarah,

Thank you for submitting your research ethics application for the above project for review by the **Faculty of Health and Medicine Research Ethics Committee (FHMREC)**. The application was recommended for approval by FHMREC, and on behalf of the Chair of the Committee, I can confirm that approval has been granted for this research project.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;
- reporting any ethics-related issues that occur during the course of the research or arising from the research to the Research Ethics Officer at the email address below (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress);
- submitting details of proposed substantive amendments to the protocol to the Research Ethics Officer for approval.

Please contact me if you have any queries or require further information.

Email: fhmresearchsupport@lancaster.ac.uk

Yours sincerely,

Dr. Elisabeth Suri-Payer
Research Ethics Officer, Secretary to FHMREC