

**Postpartum women's experiences of social and healthcare professional support during the COVID-19 pandemic: A recurrent cross-sectional thematic analysis.**

**Leanne Jackson BSc (Hons),<sup>1†</sup>** ORCID: 0000-0003-4491-1802

**Leonardo De Pascalis PhD,<sup>1</sup>** ORCID: 0000-0002-9150-3468

**Joanne A. Harrold PhD,<sup>1</sup>** ORCID: 0000-0002-0899-4586

**Victoria Fallon PhD,<sup>1\*</sup>** ORCID: 0000-0002-7350-2568

**Sergio A. Silverio MPsycholSci (Hons), MSc<sup>2\*</sup>** ORCID: 0000-0001-7177-3471

<sup>1</sup> Department of Psychology, Institute of Population Health, University of Liverpool

<sup>2</sup> Department of Women & Children's Health, School of Life Course Sciences, King's College  
London

\*Joint Senior Authors

<sup>†</sup> **Correspondence:** L. Jackson, PhD Student

*Address:* Department of Psychology, Eleanor Rathbone Building, University of Liverpool,  
Bedford Street South, Liverpool, Merseyside, L69 7ZA, United Kingdom.

*E-mail:* [Leanne.Jackson@liverpool.ac.uk](mailto:Leanne.Jackson@liverpool.ac.uk) *Telephone:* 0044 151 795 7511

**Twitter:**

Leanne Jackson: @Leanne\_JacksUoL

Leonardo De Pascalis: @leodepascalis

Joanne A. Harrold: @joaharrold

Victoria Fallon: @drfallonzi

Sergio A. Silverio: @Silverio\_SA\_

**Declaration of Interest**

Sergio A. Silverio (King's College London) is supported by the National Institute for Health Research Applied Research Collaboration South London [NIHR ARC South London] at King's College Hospital NHS Foundation Trust and an NIHR Senior Investigator Award [NIHR200306]. The views expressed are those of the authors and not necessarily those of the NIHR or the Department of Health and Social Care.

**Author Agreement:**

This article is the authors' original work and has not received prior publication, nor is it under consideration for publication elsewhere. All authors have seen and approved the manuscript being submitted and agree to abide by the copyright terms and conditions of Elsevier and the Australian College of Midwives.

**Ethical Statement**

Ethical approvals were sought from and granted by the University of Liverpool Research Ethics Committee on 07 April 2020 [ref: IPHS/7630].

**Funding**

This study received no funding.

**Author Contributions**

Author	CRediT
<b>Leanne Jackson</b>	Conceptualization, Software, Formal Analysis, Investigation, Data Curation, Writing – Original Draft, Project Administration.
<b>Leonardo De Pascalis</b>	Writing – Review & Editing, Supervision.
<b>Joanne A. Harrold</b>	Resources, Writing – Review & Editing, Supervision.
<b>Victoria Fallon</b>	Conceptualization, Validation, Investigation, Resources, Writing – Review & Editing, Supervision, Project Administration.
<b>Sergio A. Silverio</b>	Methodology, Software, Validation, Investigation, Data Curation, Writing – Review & Editing, Supervision, Project Administration.

## **Abstract**

**Problem:** Disrupted access to social and healthcare professional support during the COVID-19 pandemic have had an adverse effect on maternal mental health.

**Background:** Motherhood is a key life transition which increases vulnerability to experience negative affect.

**Aim:** Explore UK women's postnatal experiences of social and healthcare professional support during the COVID-19 pandemic.

**Methods:** Semi-structured interviews were conducted with 12 women, approximately 30 days after initial social distancing guidelines were imposed (T1), and a separate 12 women were interviewed approximately 30 days after the initial easing of social distancing restrictions (T2). Recurrent cross-sectional thematic analysis was conducted in NVivo 12.

**Findings:** T1 themes were, '*Motherhood has been an isolating experience*' (exacerbated loneliness due to diminished support accessibility) and '*Everything is under lock and key*' (confusion, alienation, and anxiety regarding disrupted face-to-face healthcare checks). T2 themes were, '*Disrupted healthcare professional support*' (feeling burdensome, abandoned, and frustrated by virtual healthcare) and '*Easing restrictions are bittersweet*' (conflict between enhanced emotional wellbeing, and sadness regarding lost postnatal time).

**Discussion:** Respondents at both timepoints were adversely affected by restricted access to informal (family and friends) and formal (healthcare professional) support, which were not sufficiently bridged virtually. Additionally, the prospect of attending face-to-face appointments was anxiety-provoking and perceived as being contradictory to social distancing guidance. Prohibition of family from maternity wards was also salient and distressing for T2, but not T1 respondents.

**Conclusion:** Healthcare professionals should encourage maternal help-seeking and provide timely access to mental health services. Improving access to informal and formal face-to-face support are essential in protecting maternal and infant wellbeing.

## **Keywords**

Postpartum; Postnatal Care; Maternity; Social Support; Healthcare professionals; COVID-19

## Introduction

New motherhood is a major life course transition which affects various domains of a woman's life and health (Silverio, 2021). Clinical diagnoses of distress, such as anxiety and/or depression, have elevated prevalence in the early postnatal period (Dennis et al, 2018) which may, in part, be attributed to the major life course transitions related to new motherhood (Herzog et al, 2016). Maternal emotional distress has adverse short- and long-term effects on maternal and infant outcomes, such as greater risk of complications during labour (Zhong et al, 2018) and decreased development of receptive language and gross motor skills in the first year of an infant's life (Irwin et al, 2020). Worryingly, a woman's heightened vulnerability towards mental distress may be exacerbated by stressors induced by the Coronavirus [SARS-CoV-2] or 'COVID-19' pandemic (Papworth et al, 2021).

Statement of Significance	
<b><i>Problem</i></b>	The perinatal period is a notable life transition for women, that increases risk of experiencing emotional distress. The impact of COVID-19 restrictions on access to in-person healthcare professional support and both formal (e.g., parenting groups) and informal (i.e., between household mixing) social support have had an adverse impact on maternal mental health. This is problematic because emotional distress has been shown to have a negative effect on birth outcomes and on infant development outcomes.
<b><i>What is Already Known</i></b>	National lockdown restrictions have disrupted access to in-person healthcare professional support and dissipated access to sources of structural and social support: which has not been sufficiently bridged by technology. Transitioning to new motherhood amidst the COVID-19 pandemic poses unique perinatal stressors which have negatively impacted: birth experience, mother and infant bonding, parenting confidence, and satisfaction with healthcare professional and social

	support. Such disruption has also contributed towards the experience of parental exhaustion, and elevated levels of emotional distress. However, little is known qualitatively about the impact that distinct phases of social distancing restrictions have had on UK mothers.
<b><i>What this Paper Adds</i></b>	This rapid response piece of research has provided an in-depth understanding of specific psychological, social, and community level factors which may account for heightened levels of maternal emotional distress observed during the COVID-19 pandemic. Findings evidence a sustained negative impact of social distancing restrictions on accessibility and quality of healthcare professional and social support which have had concerning postpartum consequences e.g., delays in labour progression and help-seeking avoidance. Findings from the current study have potential applications for revised policy and practice, with an aim to better support maternal wellbeing during the remainder of this, and in future health crises.

## Introduction

COVID-19 is a novel respiratory disease which was declared a public health emergency of international concern on 30 January 2020 (World Health Organization [WHO], 2020). Although not at increased risk of contracting COVID-19, women in the third trimester of pregnancy and women in the early postnatal period are at greater risk of negative outcomes if they contract the virus, when compared with nulliparous adults younger than 65 years old (Diamond et al, 2020). Due to growing concerns about COVID-19 transmission and mortality, the UK Government imposed a national lockdown on 23 March 2020 (UK Government, 2020a).

National lockdown restrictions in the UK involved prohibiting public from leaving their homes unless for the following purpose(s): shopping for necessities, one form of exercise per day (alone, or with members of the same household), medical necessity, and essential travel for work (UK Government,

2020a). UK national lockdown restrictions have also disrupted perinatal access to instrumental and relational support services (Hermann, et al, 2020). Direct lockdown-induced disruptions to perinatal support have included: limited access to in-person health and support services (Horsch, et al, 2020), reduced breastfeeding support from healthcare professionals (Vazquez-Vazquez et al, 2021), discontinued parenting support groups (Brown & Shenker, 2021), and reduced access to support from maternal social networks (Snyder & Worlton, 2021). COVID-19 related stressors may have exacerbated postnatal vulnerabilities to experience emotional distress (Hessami, et al, 2020).

Indeed, COVID-19 has had a detrimental effect on maternal mental health outcomes. There is a growing evidence-base to suggest COVID-19 related disruption has been associated with elevated levels of postnatal anxiety and depression, compared with pre-COVID prevalence of mental distress (Kotlar et al, 2021). Fallon and colleagues (2021) examined the psychosocial experiences of new mothers amidst the COVID-19 pandemic, using a large on-line survey. Prevalence of negative social changes, consequential of COVID-19, were apparent for relationship satisfaction with one's partner (45%), perceived social support (56%), and satisfaction with healthcare (38%). Currently there is little existing qualitative literature which has sought to explore women's experiences of social and healthcare professional support during the COVID-19 pandemic: the majority of which has focused on initial UK lockdown restrictions, only. Qualitative research can offer richer insight into which disruptions, due to imposed social distancing restrictions, have been most impactful to maternal emotional wellbeing. As such, the current study aims to explore postnatal women's experiences of social and healthcare professional support during different phases of COVID-19 related national lockdown restrictions in the UK, using in-depth, recurrent cross-sectional thematic analysis.

## **Respondents, Ethics, and Methods**

### ***Respondents***

The current qualitative study was nested within a larger, quantitative study exploring psychosocial experiences of new motherhood during COVID-19 (Fallon et al, 2021). Respondents who took part in Fallon et al (2021) were debriefed and re-directed to a separate Qualtrics survey. Here, eligible mothers

were asked if they would be happy to take part in an audio recorded interview study so that researchers to gain deeper insight into their experiences of motherhood during different phases of national lockdown restrictions. Eligible mothers were instructed to leave the box blank if they did not wish to take part, or to provide an email address and/or contact telephone number if they were happy to be contacted with more information [XX].

Potential respondents were selected via a random number generator due to oversubscribed interest (221 and 207 expressions of interest at T1 and at T2, respectively). Those selected were approached and given more information about the current study [XX]. With verbal consent the potential respondent was then emailed a study information sheet and an anonymous Qualtrics link to provide electronic consent [XX]. After providing consent, respondents were contacted again to organise a convenient time for interviewing [XX]. Verbal consent was taken before commencing the interview to ensure that the mother was still happy with their involvement in the current study.

Eligibility criteria were consistent for Fallon et al, (2021) and for the current study. Eligibility criteria included having given birth to a live infant within the past three months, being over 18 years of age, English speaking, and currently residing in the UK. The last criterion was due to cross-country differences in lockdown restrictions (Jardine et al, 2021). Attrition rate was 14% and 20% at T1 and T2, respectively. Reasons for drop-out included: lack of available time (1 respondent), failed to attend arranged interview and did not respond to a follow-up e-mail (2 respondents), and failed to respond to 2 separate attempts at e-mail contact, spaced one week apart (2 respondents).

A total of 24 respondents were recruited: 12 at Timepoint 1 (T1; data collection completed: 20 May 2020) and a different group of 12 at Timepoint 2 (T2; data collection completed: 16 July 2020). T1 respondents were aged between 28-41 years ( $M_{Age} = 33.17$ ), and infant age ranged from 2-13 weeks ( $M_{Age} = 7.25$  weeks). All T1 respondents were married. See Table 1 for T1 demographic information.

**<INSERT TABLE 1 HERE>**

T2 respondents were aged between 28-41 years ( $M_{Age} = 34.67$ ), and infant age ranged from 6-14 weeks ( $M_{Age} = 10.5$  weeks). All T2 respondents were married. See Table 2 for T2 demographic information.

<INSERT TABLE 2 HERE>

### ***Ethics***

Ethical approvals were sought from and granted by the University of XXXXX Research Ethics Committee [ref:- IPHS/7630].

### ***Methods***

Timepoint One (T1) interviews commenced approximately thirty days after the introduction of initial social distancing restrictions (23 March 2020; UK Government, 2020a) and Timepoint Two (T2) interviews commenced approximately thirty days after the first initial easing of social distancing restrictions (11 May 2020; UK Government, 2020b). Individual semi-structured interviews (McIntosh & Morse, 2015) were conducted via telephone or video-calling [XX]. Interviews lasted between 30-120 minutes (Mean = 53.5 minutes). All respondents were reimbursed £10 and debriefed approximately one day after being interviewed.

Interview schedules were created with collaborators who had expertise in the field of perinatal mental health [XX, XXX, XX, XXX]. Topics of conversation had a chronological structure so to conduct an in-depth exploration of experiences through different phases of national lockdown restrictions. T1 interviews involved thinking about how life was before COVID-19, the time around the interview, the future, and general opinions about COVID-19. T2 interviews involved thinking about how life was at the start of lockdown restrictions being implemented on the 23 March 2020, the time around the interview, the future, and general opinions about COVID-19. Specifically, each period covered in the topic guide included items on the quality of emotional, informational, and instrumental support received from: friends and family, healthcare professionals, and the mother's wider community (local and



national government/health services generally). See Supplementary materials for T1 and T2 topic guides.

Audio recordings were transcribed, then uploaded to and analysed using NVivo 12 [XX]. Transcripts were then analysed using thematic analysis (Braun & Clarke, 2006). Thematic analysis involved six stages: familiarisation with transcripts, generation of initial codes, identification, review, and defining themes, and report writing (Braun & Clarke, 2006). All authors were responsible for refining and identifying themes, following an inductive and consultative approach (Silverio et al., 2020; Terry et al., 2017).

Analysis followed an adapted, recurrent cross-sectional thematic approach, so that comparisons could be made across timepoints (Grossoehme & Lipstein, 2016). This adapted approach consisted of two steps: thematic analysis was conducted for T1 and for T2 independently; comparisons between findings from independent timepoints were then discussed and interpreted with literature (Grossoehme & Lipstein, 2016). Data saturation was achieved after analysing eight (T1) and seven (T2) transcripts, which was determined as the point whereby adding new transcripts did not lead to the identification of new themes (Francis et al, 2010). Still, recruitment continued until twelve respondents had been interviewed at each timepoint to ensure that data saturation had been reached, even if presumed to have been achieved earlier (Guest, Bunce, & Johnson, 2006). Themes are outlined and discussed in detail with support from only the most illustrative quotations, accompanied by their associated timepoint (i.e., T1 for timepoint 1, and T2 for timepoint 2).

## **Results**

A thematic analysis of the timepoint 1 dataset (n=12), generated two main themes, with two and three sub-themes, respectively. For the timepoint 2 dataset (n=12), thematic analysis also generated two main themes, again with two and three sub-themes, respectively. Please see Table X for a summary of generated themes and sub-themes, split by interview timepoint.

<INSERT TABLE X HERE>

Table X: Themes and Sub-Themes for Timepoints 1 & 2		
	Themes	Sub-Themes
Timepoint 1	Motherhood has been an isolating experience	<i>Diminished support from family and friends</i> <i>Lost postnatal experience</i>
	Everything is under lock and key	<i>What is 'essential'?</i> <i>Into the lion's den</i> <i>Deprived of care and feeling distant</i>
Timepoint 2	Disrupted healthcare professional support	<i>Diminished care, distress, and desertion</i> <i>They're doing the best they can</i>
	Easing restrictions are bittersweet	<i>Renewed normality</i> <i>Lost time with baby</i> <i>Technology: A necessary evil</i>

***Timepoint 1: Theme 1 – Motherhood has been an Isolating Experience***

Most respondents felt that their postnatal experiences had been significantly more isolated and difficult to manage than they speculated it to have been in the absence of social distancing restrictions. Respondents noted that these exacerbated difficulties were felt due to COVID-19 related disruption to emotional and practical support from maternal social networks. Respondents expressed deep sadness and disappointment in being unable to share their life transition through face-to-face interactions with family, friends, and other new mothers.

***Diminished Support from Family and Friends***

Most respondents felt the initial lockdown was extremely isolating, due to restrictions on between-household socialising, and fears of spreading and contracting COVID-19:

*“You haven’t got any friends or family that can necessarily come into your home and support you in case, they, you know, also contract it. Carrying it. It’s kind of like, one of them, rock and a hard place erm, situation. So, erm. Yeah. It is isolation.”* (Respondent 1, T1).

This was especially difficult during the early postnatal period whereby women would have otherwise been receiving much needed emotional and practical support from friends and family during this transition to parenthood:

*“I think week two to four was peak tiredness and then that’s the point where I’d really loved either my mum, my mother-in-law, or my own family to sort of step in and be able to help out a bit more.”* (Respondent 10, T1).

In some cases, this led to frustrations around the perceived unfairness of social distancing restrictions:

*“The hardest thing in general like, I mean, particularly with my mum, she’s been self-isolating. We’ve been self-isolating...I can’t see why we can’t see family.”* (Respondent 11, T1).

One respondent’s family and friends lived in a different country, meaning the respondent’s support network had decided to temporarily travel to the UK to self-isolate with the respondent during the initial lockdown, helping with practical and emotional needs during the early postnatal period. This respondent was content with the support she had received during the initial lockdown, due to her unusual situation. However, she experienced much anxiety at the thought of family returning home when lockdown restrictions eased, which would result in the loss of her temporarily established support system:

*“I’ve made myself quite a big family of friends here [UK] which I’ve relied quite heavily on...So, I’m quite nervous for when everyone leaves and I’m just stuck at home with three children [Laughing/Crying]”* (Respondent 9, T1).

### *Lost Postnatal Experience*

For women who had had their babies during initial set of lockdown restrictions, it was not uncommon for mothers to express sadness concerning the lost opportunity for extended family to bond with the new baby, and the inability to share infant milestones with family:

*“It’s [new motherhood] just been sadness, really...The people who you are close to and would usually rely on as most forms of support can’t be part of the things that’re a massive deal to me...he [baby] turned his head for a noise or, or when I’m singing a certain song he does this really cute thing...it’s like, “Aw I’ll just go to my mum’s and show – Oh, no. I can’t”. It’s the realisation, isn’t it?”* (Respondent 2, T1).

Indeed, as the lockdown restrictions continued, women found it increasingly difficult not having access to their social support networks:

*“This is what I’m finding very difficult, is the not being able to see friends and even the family...just other people...I get really sad thinking how the year was supposed to be really good for us.”* (Respondent 9, T1).

Although technology has been a useful resource in keeping women connected with loved ones, there are limits on the level of intimacy that can be achieved through distanced communication:

*“We have a very active WhatsApp chat erm and yeah I mean I get a lot of stuff from the internet but it’s not-it’s not quite the same.”* (Respondent 10, T1).

### ***Timepoint 1: Theme 2 – Everything is Under Lock and Key***

Frequently changing policies regarding face-to-face healthcare checks were a source of confusion and alienation for interviewees. Respondents also frequently experienced anxieties about attending hospital and GP appointments, which appeared contradictory to national advice for new mothers to ‘shield’. Other negative effects of COVID-19 on quality of healthcare professional support included restrictions on time spent at practices and the need to rely on virtual healthcare. The impact of COVID-19 on

healthcare access resulted in many respondents being left with unanswered questions and seeking sources of self-reassurance.

### *What is 'Essential'?*

The majority of respondents mentioned lack of clarity and associated feelings of distress and frustration regarding the six- and eight-week postnatal check-ups. Lack of consistency and clarity from healthcare professionals was a source of anxiety and confusion:

*“I think one thing that hasn’t been made clear to me, but I’d kind of found out through other sources is that in terms of my six-week check...apparently they’re doing it all [in one appointment] when [youngest] has his eight-week jab, and that hasn’t been made clear”*

(Respondent 3, T1).

For these women, advice was only given if actively sought, otherwise, many were left confused and questioning whether their concerns warranted medical attention:

*“What I deem is essential as an expectant mother and what [healthcare professionals] actually think is essential might be completely different. So why don’t [they] tell me what [their] definition of essential is?”* (Respondent 5, T1).

There was also a portrayed sense of apprehension around help-seeking among respondents, expressed regarding fears that one’s concerns were non-essential:

*“I don’t want to put the [NHS] resources under unnecessary strain just because I’m being a panicky mum.”* (Respondent 8, T1).

For some, concerns were raised about the potential risks of diminished face-to-face healthcare visitation for infant and maternal health and wellbeing:

*“When people feel like they can’t go [to the doctors]... [that’s] why I feel a bit sad about the six-weeks check and the health visitor’s check not being physical, because I think that vulnerable people are going to be slipping through the cracks.”* (Respondent 9, T1).

### *Into the Lion’s Den*

Contradictory advice concerning national guidelines for mothers to adhere with social distancing guidelines, whilst also being invited to attend hospital appointments, where the risk of contracting COVID-19 was perceived to be higher, was a source of confusion and distress:

*“You’re told you’re vulnerable and you have to isolate but then you still have to go to hospitals or, you know, health facilities for your appointments, which don’t feel as safe...it just sends a bit of a mixed message you know? Oh gosh, I’m having to go to the lion’s den to have this appointment.”* (Respondent 9, T1).

There was a general concern for the safety of perinatal appointments being held at hospitals, which had a significant impact on delaying contractions due to associated anxieties:

*“I was like having contractions and erm... every time I thought about going into hospital, it was slowing down and- I don’t want [labour] to go on for ages. The more I was like worried about it, the longer it was.”* (Respondent 1, T1).

Respondents felt exacerbated and anxious about being asked to go to hospital to birth amidst the pandemic, with emphasis being placed on the perceived increased risk of exposure to COVID-19:

*“At the best of times, I’m like, “No thank you. I don’t want to go to the hospital” and now we’re facing a COVID-19 pandemic, and [healthcare professionals] want me to go into the hospital? Like, are [they] serious?”* (Respondent 5, T1).

For this respondent, such anxieties resulted in attempting to delay planned labour induction in the hopes that the mother would be able to have a homebirth instead of being admitted to hospital:

*“I ended up saying [to healthcare team] well you know, “I don’t want to be induced on that particular day, can we postpone this by a week?” so hopefully within a week [baby] would make an entrance all by himself.”* (Respondent 5, T1).

For those interviewed who did not need to stay in hospital for long after giving birth, this was a great source of relief:

*“I was just apprehensive seeing how it’d [hospital] become because I just wanted to be home. But luckily, I was discharged the same day...So, I was happy with that, not having to stay in hospital for long.”* (Respondent 7, T1).

#### *Deprived of Care and Feeling Distant*

Several respondents spoke of feeling that available healthcare professional support was time restricted:

*“[Midwives] want to get you off the phone as soon as possible ’cause they have such a high number of people they’ve got to deal with erm so you do feel a little bit rushed.”* (Respondent 1, T1).

Interviewed women were also dissatisfied with virtual healthcare which sometimes appeared more like a ‘tick-box exercise’ than genuine concern for mother or infant:

*“I did receive a new-born check over the phone er... the GP just rang up and said, “Is he eating okay?” “Any problems?” and I said no. And she said, “Okay”. And it just felt quite like...what is the point in that? [laughter]”* (Respondent 2, T1).

Respondents missed having face-to-face contact with healthcare professionals, and frequently spoke of the importance of having the opportunity to build rapport and to ask questions which mothers otherwise feared did not warrant medical attention:

*“[Health visitor] phoned me a couple of times since but you can’t- when you’re on the phone as well, you feel distant. You do definitely feel distant.”* (Respondent 6, T1).

As a result of limited face-to-face support, many new mothers were left feeling abandoned post-hospital discharge:

*“You have phone calls and that, but no one actually comes out, like, I felt a bit neurotic being a first-time mum anyway. But when [baby’s] got like spots on her face and stuff like that, there’s no-one there to like look at it... I found that quite hard.”* (Respondent 11, T1).

For one respondent, ethnicity was reported as a significant barrier when accessing healthcare professional support:

*“I think in terms of the help there are issues in terms of how accessible it is, the-there’s a little bit of discrepancy...I don’t wanna say because maybe... I’m Black, I don’t really know. But I think maybe my White counterpart may know a lot more. So, I think maybe ethnicity depends on the level of help you can access, because it can’t happen if you don’t know where to go [laughter]”* (Respondent 7, T1)

Women who felt that they often went without the support and reassurance needed in the early postnatal period often resorted to reliance on physical indicators and self-reassurance that infant health was okay:

*“I’m fairly sure [baby’s] putting on quite a lot of weight cause he’s chubbing out, growing out of his clothes in time. But I just miss that sort of knowing [of getting him weighed].”*  
(Respondent 8, T1).



### ***Timepoint 2: Theme 1 – Disrupted Healthcare Professional Support***

COVID-19 related restrictions on access to healthcare professional support led to T2 respondents feeling burdensome and abandoned. Extra reliance was thus placed on sourcing information from the internet. For women who did source information from online sources, virtual healthcare was perceived as being an insufficient replacement for essential face-to-face healthcare appointments in that virtual care failed to meet maternal and infant wellbeing needs. Consequently, respondents feared the potential consequences of discontinued face-to-face healthcare professional support on infant and maternal wellbeing. Respondents felt considerations had not been made regarding the unique needs of new mothers, such as allowing partners to be present at essential healthcare appointments and during labour. However, mothers also noted the unprecedented pressures which healthcare professionals were under, and appreciated attempts made to extend care where possible.

#### *Diminished Care, Distress, and Desertion*

Many respondents at T2 received very little healthcare professional support in the early postnatal period, which exacerbated feelings of loneliness:

*“Not too much support for people after you’ve had a baby, really. After you’ve been discharged from the midwife and the health visitors, that’s kind of it. You’re on your own.”* (Respondent 13, T2).

Respondents who felt ill supported and burdensome about help-seeking were left to find information themselves from internet sources. For such women, concerns were raised about fears of potential exposure to misinformation:

*“I didn’t have any contact details for health visitors. I didn’t feel like I could go to them, either. Just felt like I was being intrusive. So I just used Google all the time, which is good and bad [laughter] because there’s a lot of diagnosis things on there that might not be useful.”* (Respondent 22, T2).

Virtual healthcare was insufficient in meeting postnatal needs and was often perceived as more of a ‘tick box’ obligation rather than having received quality care:

*“I’ve spoken to a health visitor a couple times and it was just like [imaging speaking to health visitor], “I know you’ve gotta tick a box, but that is really pointless. Wasting my time and yours.” (Respondent 19, T2).*

Worries were raised concerning potential implications of missed face-to-face healthcare visits to infant safety:

*“We had no home visits at all from any health professionals which [sigh] is okay, but you do worry about the fact that the baby’s environments aren’t being checked...obviously we know it’s okay but [laughter] they [health visitors] don’t.” (Respondent 20, T2).*

Another distressing experience for women at T2 included partners being excluded from maternity suites, which was perceived as an incredibly isolating experience:

*“Obviously you haven’t got your husband or his family [on the ward], and it’s literally like being in a little prison cell.” (Respondent 17, T2).*

This was particularly distressing for a respondent who had experienced a previous miscarriage:

*“We had a couple of scans as well, which my husband wasn’t allowed to come along to. Erm and we’ve had some pregnancy losses in the past, so that was, that was quite difficult, not having that support there.” (Respondent 20, T2).*

### *They’re Doing the Best They Can*

Despite dissatisfaction with quality and availability of healthcare professional support, respondents also recognised the unprecedented circumstances of the pandemic:

*“I understand they’re [healthcare professionals]...trying to protect us and that kind of thing, so I think the things that I would’ve wanted I think couldn’t have been possible.” (Respondent 23, T2).*

A respondent, whose infant needed to stay in hospital for eight days after birth, found it invaluable that healthcare professionals acted of their own volition to extend support beyond social distancing restrictions:

*“When [baby] went in for her operation she was in for eight days, you know, she had a six-hour operation, it was quite scary and yet me and my husband weren’t allowed to visit her...the staff were great and often turned a blind eye when we were together.”* (Respondent 22, T2).

Healthcare professionals were praised for their empathic attempts to bridge the gap created by enforced social distancing restrictions on face-to-face services, with virtual healthcare:

*“When the GP prescribed me the surgery, she spent half an hour on the phone to me. She went above and beyond, really, and spoke about her own experiences as a mother. Said she’d been through similar, gave me some websites to look at. So, it’s people really acting on their own volition.”* (Respondent 14, T2).

### ***Timepoint 2: Theme two – Easing Restrictions are Bittersweet***

Eased social distancing restrictions enhanced maternal emotional wellbeing through renewed independence. The ability to interact with loved ones and the re-opening of schools re-instated maternal autonomy and relieved parenting pressures. On the other hand, respondents also grieved their lost maternity period, which was much detached from expectations of sharing infant development milestones with loved ones during pregnancy. To maintain social connections during an otherwise lonely transition toward new motherhood, technology was found to be invaluable, but feelings towards it were mixed: mothers were appreciative of having the ability to maintain intimacy with friends and family, but also noted the limitations of technology in maintaining the same degree of social connectedness, achievable with face-to-face interactions.

### *Easing Restrictions and Renewed Normality*

Initial easing of social distancing restrictions in May 2020 was an invaluable source of improved maternal wellbeing, which was attributed to renewed independence:

*“We can start going into people’s houses now, and that’s sweet...things are massively improved...I’ve got freedom back a little bit more, not to the to the same extent that I would like, but it’s certainly erm so much better.”* (Respondent 15, T2).

Gratitude concerning renewed small freedoms was a source of improved maternal emotional wellbeing for T2 respondents:

*“Even things like when we [husband and I] were getting our coffees, our little takeaway coffees, we were so grateful for that....we’re going to the zoo for the first time on Saturday and we’re just really excited.”* (Respondent 21, T2).

Newly introduced guidelines that allowed lone inhabitants to ‘bubble’ with another household, and easing social distancing restrictions, were both sources of great relief for T2 respondents:

*“With the support bubble, my brothers’ on his own so he has been able to come here and stay with us...I have family coming over this weekend...that’ll be really nice to see them. So, thank God it’s eased a bit. Yeah.”* (Respondent 24, T2).

Another guideline change which was perceived as an invaluable emotional aid for T2 respondents included the re-opening of schools:

*“The schools, you know, even though it’s just one day a week, they’ve made...that’s all made a really big difference, psychologically. It feels like there’s less pressure on you [laughter]”* (Respondent 20, T2).

### *Lost Time with Baby*

There was a commonly reported sense of sadness in connection with family and friends having lost irretrievable, precious time with their infants:

*“There’s so many things that I feel like we’ve missed out on in terms of, you know, him [baby] meeting his family and...other than immediate family, no one’s even met him, who would have by now...and at this point in time we don’t know when they will either.”* (Respondent 16, T2).

Despite the experienced joy and happiness in being able to see family face-to-face at T2, there was an accompanying, conflicting sense of loss in the realisation that true postnatal ‘normality’ had not yet been achieved:

*“My mam came to my back door, and it was heart-breaking. She just had to look at the baby through the window.”* (Respondent 14, T2).

Disappointment was also felt in the lost time which could have been spent attending parenting classes and interacting with other mothers:

*“I did NCT [National Childbirth Trust – a charity which provides antenatal classes] so I’ve been able to do the face-to-face sessions about halfway through and what was really frustrating, and has impacted me now, is towards the end when the pandemic kind of started, my last sort of interaction won’t have face-to-face.”* (Respondent 15, T2).

Other sources of difficulty included lack of parenting support from social networks that would have been accessible in the absence of COVID-19 imposed social distancing restrictions:

*“Hardest was sort of my parents, who are in their 70’s, was them not having the role that they want to have with the baby, because my mum is so hands on, you know? She...was the childcare.”* (Respondent 19, T2).

### *Technology: A Necessary Evil*

For many respondents, technology was invaluable in allowing mothers to remain connected with loved ones while face-to-face contact were restricted:

*“I’ve been sending everybody [family] loads of videos of him [baby] and yeah. Video calling. [eldest child] loves a video call now [laughter]. If my mam rings just on a normal phone call she goes ‘I wanna see ya! Ring me back!’”* (Respondent 18, T2).

Despite using technology to maintain intimacy with friends and family, all respondents acknowledged that virtual communication paled in comparison with quality face-to-face interactions:

*“I’ve met up with my friends a couple of times over sort of Zoom, had a glass of wine with them. But it’s not the same.”* (Respondent 14, T2).

Virtual communication with friends and family was perceived as lacking in intimacy compared with face-to-face communication:

*“It’s the intimacy of those conversations [on-line]. You’re losing the kind of... yeah, the connection.”* (Respondent 16, T2).

Virtual parenting classes have also been identified as more difficult to navigate, and less socially engaging, than face-to-face parenting classes:

*“They’ve [parenting groups] all been trying to do things on-line, but it just isn’t the same. You’ve gotta be there. It’s about the social interaction...and to be honest, I don’t really think baby groups are for babies, they’re for the mums.”* (Respondent 21, T2).

### **Discussion**

The current study used recurrent cross-sectional thematic analysis to explore women’s experiences of social and healthcare professional support during different phases of the COVID-19 pandemic.

### ***Social support during the COVID-19 pandemic***

A source of notable disappointment and grief for respondents at both timepoints was the closure of parenting groups. Parenting groups provide invaluable social and informational resources, which have been associated with improved emotional wellbeing outcomes (Sikorski et al, 2018). Current findings suggest that lockdown restrictions on accessibility to parenting groups (Brown & Shenker, 2021) have had an adverse effect on maternal mental health. Strikingly, respondents at both timepoints noted on-line parenting support groups were an insufficient alternative for face-to-face interactions. Salience at both timepoints emphasises the ineffectiveness of technology in attenuating maternal feelings of isolation and frustration in response to imposed lockdown restrictions, due to the lack of improvement in thoughts or feelings over time. Although use of technology has been an important source of support for mothers during the UK national lockdown (Vazquez-Vazquez et al, 2021) the re-establishment of face-to-face parenting support groups would seem to be imperative for improving postnatal emotional wellbeing.

T2 respondents found disruptions to healthcare professional support such as the exclusion of partners and family from maternity wards exceptionally isolating (See Table X). Exclusion of social support networks from maternity wards was not identified by T1 respondents, which may have been due to the time of interviewing: three respondents had given birth before social distancing restrictions were implemented, one respondent had had a home birth, and two respondents had been allowed partners to be present at some hospital appointments prior to social distancing restrictions being implemented. Rapid-response research conducted during the initial phase of the COVID-19 pandemic found that labouring alone increased perceived isolation and frustration (Davis-Floyd, et al, 2020). Allowing mothers to be accompanied by a support person throughout all perinatal healthcare appointments, not just during active labour (Royal College Of Gynaecology [RCOG], 2020), is an auspicious opportunity to improve maternal emotional wellbeing and satisfaction with healthcare professional support.

### ***Healthcare professional support during the COVID-19 pandemic***

At both timepoints, virtual healthcare was perceived as an impersonal '*check box*' exercise. Reconfigured healthcare guidance has consisted of flow diagrams (National Institute for Health and Care Excellence, 2021) and bullet-points (RCOG, 2021) for healthcare professionals to follow during perinatal mental health and physical check-ups. Evidence from respondent accounts suggests that this skeleton care is overly reductionist and inefficient in supporting postnatal emotional and physical concerns. After prioritising acute safety of the public (based on careful evaluation of the potential risk of increasing infection rates, on balance with counteracting effects of vaccination uptake; Jalkanen et al, 2021), priority should be placed on reinstating all essential face-to-face perinatal healthcare appointments in hospital and home settings. This would be with an aim to protect infant and maternal wellbeing.

For T2 respondents, insufficient healthcare professional support led to increased reliance on on-line resources to address postpartum questions. Respondents who had sourced information online were concerned about being potentially exposed to misinformation and false information and were consequently, worried about possible negative impacts to maternal and infant wellbeing. Previous literature has also found that on-line informational resources often contain false information and misinformation (Nostratabadi et al, 2020), which may result in serious infant welfare and maternal mental health concerns going unaddressed or being unnecessarily minimised or exaggerated. Given the increased reliance on technology for support during the COVID- 19 pandemic (Silverio et al, 2021; Vazquez-Vazquez et al, 2021) it is essential for healthcare professionals to direct mothers to reputable on-line resources between face-to-face visitations, so to mitigate the risk of acquiring inaccurate guidance.

Most respondents found attending routine hospital appointments anxiety-provoking. For one respondent, the thought of being transferred to hospital was so anxiety-inducing that labour contractions were slowed. Higher scores on general and pregnancy-specific measures of anxiety are both predictive of greater use of pain relief and greater need for medical intervention during labour (Koelewijn et al,



2017). This is concerning because increased use of medical interventions during birth are related to poorer infant health outcomes (Peters et al, 2018). Considering the elevated prevalence of postnatal anxiety observed during the pandemic (Fallon et al, 2021) it is important for healthcare professionals to: encourage mothers to reach out about medical and emotional wellbeing concerns, initiate face-to-face conversations about mental health issues, ensure sufficient accessibility to mental health services, and ensure provisions are in place to reassure mothers about attending essential face-to-face appointments e.g., wearing Personal Protective Equipment, during the remainder of the global COVID-19 pandemic (Hermann et al, 2021; Silverio et al, 2021).

Maternal anxieties concerning COVID-19 are well rationalised, given the relatively higher risk of COVID-19 related mortality when compared with seasonal influenza (Kobayashi et al, 2020). However, this has troubling consequences: the pandemic has seen a reduction in number of non-COVID-19 related emergency room admissions due to fears of contracting the virus (Mantica et al, 2020). Such help-seeking avoidance may have adverse downstream health consequences (Estes & Thompson, 2020). Notably, caregivers face additional practical barriers to attending healthcare appointments (e.g., work, school) which may compound health anxieties and further reduce hospital appointment attendance (Raatz et al, 2021). Possible solutions showing utility are digital interventions. Digital interventions have been effective in reducing postnatal anxiety around parenting practices and improving infant health outcomes pre-pandemic (Haycraft, Witcomb, & Farrow, 2020). Future research should aim to examine the feasibility and acceptability of psycho-educational interventions to help reduce maternal anxiety, to dissipate misconceptions about attending essential hospital appointments through the remainder of the global COVID-19 pandemic.

For T1 respondents, lack of information and clarity regarding the six-to-eight-week postnatal check-ups were a source of anxiety and frustration. In contrast, T2 respondents did not discuss lack of clarity in communications regarding the six-to-eight-week health check, which may be indication that re-prioritisation of the face-to-face six-to-eight week checks in April 2020 (NHS, 2020) were effective in supporting postnatal concerns. The six-to-eight-week check allows GPs to assess maternal mental and

physical wellbeing after birth and to check infant development and health (NHS, 2019, 2020). Lacking and ineffective communication from healthcare professionals has been linked with dissatisfaction with support and negative emotional outcomes in other domains of postnatal research e.g., within an infant feeding context (Jackson et al, 2021). Current findings suggest lack of clarity surrounding face-to-face health checks during initial lockdown restrictions led to ineffective support for mothers and exacerbated feelings of anxiety and frustration.

Moreover, T2 respondents talked about healthcare professionals acting of their own volition to provide support above and beyond national restrictions. Certainly, social distancing restrictions on healthcare services have been in direct contrast with the moral values and preferred practice of maternity staff (Horsch et al, 2020). Such dissonance between preferred practice and imposed restrictions may have contributed towards the increased prevalence of emotional distress observed among obstetrics and gynaecology employees during the COVID-19 pandemic (Uzun et al, 2020). Prioritisation of personalised face-to-face care is therefore fundamental for satisfaction with support among both mothers and maternity staff (Aston et al, 2015; McLelland, Hall, Gilmour, & Cant, 2015).

T1 respondents felt that face-to-face health visitation was essential for building the rapport necessary to confide in healthcare professionals about emotional wellbeing difficulties, and T2 respondents feared the potential dangers for mother and infant of missed face-to-face health visitation. The purpose of health visitation is to ensure that the infant's environment is safe, to check on maternal emotional wellbeing, and to assess baby for conditions which may require further evaluation e.g., yellow palms and soles as an indicator of potential jaundice (WHO, 2013). Such home visitations are responsible for an 18% reduced risk of perinatal mortality (WHO, 2013). Reduced access to in-person healthcare (Horsch et al, 2020), consequently, has potential for detrimental impacts to maternal and infant wellbeing. Maternal mental health has suffered substantially due to COVID-19 related stressors (Fallon et al, 2021; Hessami, et al, 2020; Papworth et al, 2020). It is therefore concerning that respondents in the current study felt inhibited to seek support due to the limitations of virtual healthcare arrangements (Silverio et al, 2021).

Essential face-to-face healthcare visitation during the immediate postnatal period should therefore be re-prioritised in this, and similar crises.

### ***Strengths, limitations, and future directions***

The current study offers analyses of data from rapid research in response to the COVID-19 pandemic, providing in-depth insights into the psychological, social, and community factors which may have contributed towards heightened levels of maternal emotional distress identified in recent quantitative investigations of maternal mental health during the COVID-19 pandemic (Fallon et al, 2021). Findings from the current study have potential applications in revising policy and practice, with an aim to support maternal wellbeing more effectively during the remainder of this health crisis, and in future crises. Data for the current study was collected in alignment with changing social distancing restrictions (UK Government, 2020a, 2020b) which allowed for more accurate recall of lived experiences during different phases of the COVID-19 pandemic. A homogenous sample of respondents were recruited, who were well matched by age, educational status, and occupation. This allowed for greater transferability of study findings to be achieved.

A limitation of this study is that place of birth (private hospital, NHS hospital, midwifery led unit, home birth) was not routinely recorded as part of the interviews, meaning that our findings are with regards to the birth experience and cannot be linked to their place of birth. Although a geographically diverse sample of women were recruited, another limitation of the current study is that participant ethnicity was not routinely recorded. Within the current sample, one participant self-disclosed as being of Black ethnicity and one participant self-disclosed as being of Asian ethnicity. Literature suggests that, pertaining to the COVID-19 pandemic, women from Black, Asian, and Ethnic minority backgrounds experience more adverse emotional wellbeing outcomes (Iob et al, 2020) and worse health outcomes from contracting the disease (Otu et al, 2020). Recent literature shows that Black women frequently perceive COVID-19 guidance as confusing and untrustworthy (Chandler et al, 2021). Additionally, evidence suggests that there has been an increase in stigma and anti-Asian discrimination during the COVID-19 pandemic due to misplaced blame for the outbreak which is likely to have had a negative

impact on mental health (Misra, Le, Goldmann, & Yang, 2020). Future research should therefore seek to explore the psychosocial experiences of mothers from Black, Asian, and Ethnic minority backgrounds, to identify and address ethnicity-specific barriers to support accessibility during this, and similar crises.

## **Conclusion**

The current study used a recurrent cross-sectional thematic analysis to explore postnatal experiences of social and healthcare professional support during the COVID-19 pandemic, in a UK population of women. Regarding social support, recommendations are made to allow mothers the opportunity to self-isolate with one other major support partner, and to prioritise the re-opening of parental support groups. For healthcare professional support, recommendations are made to prioritise face-to-face healthcare visitation, to improve clarity and consistency of communication regarding changing social distancing restrictions, to allow a support person to attend all necessary hospital appointments, and for healthcare professionals to actively encourage mothers to engage in help-seeking behaviour. Future research should aim to explore the experiences of mothers from Black, Asian, and Ethnic minority backgrounds, and to examine the acceptability and feasibility of a psychoeducation intervention in reducing maternal anxiety concerning the attendance of essential face-to-face hospital appointments during this, and similar crises.

## References

1. Aston, M., Price, S., Etowa, J., Vukic, A., Young, L., Hart, C., MacLeod, E. & Randel, P. (2015). The power of relationships: Exploring how public health nurses support mothers and families during postpartum home visits. *Journal of Family Nursing*, 21(1), 11-34.
2. <http://dx.doi.org.liverpool.idm.oclc.org/10.1177/1074840714561524>
3. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>.
4. Brown, A., & Shenker, N. (2021). Experiences of breastfeeding during COVID-19: Lessons for future practical and emotional support. *Maternal & Child Nutrition*, 17(1), 1-15. <https://doi.org/10.1111/mcn.13088>
5. Chandler, R., Guillaume, D., Parker, A. G., Mack, A., Hamilton, J., Dorsey, J., & Hernandez, N. D. (2021). The impact of COVID-19 among Black women: evaluating perspectives and sources of information. *Ethnicity & Health*, 26(1), 80-93. <https://doi.org/10.1080/13557858.2020.1841120>
6. Davis-Floyd, R., Gutshow, K., & Schwartz, D. A. (2020). How Birth Providers in the United States are Responding to the COVID-19 Pandemic. *Journal of Prenatal & Perinatal Psychology & Health*, 34(4), 272-284
7. Dennis, C. L., Falah-Hassani, K., & Shiri, R. (2018). Prevalence of antenatal and postnatal anxiety: Systematic review and meta-analysis. *The British Journal of Psychiatry*, 210(5), 315-323. <https://doi.org/10.1192/bjp.bp.116.187179>
8. Diamond, R. M., Brown, K. S., & Miranda, J. (2020). Impact of COVID-19 on the perinatal period through a biopsychosocial systematic framework. *Contemporary Family Therapy*, 42, 205-216. <https://doi.org/10.1007/s10591-020-09544-8>
9. Estes, K. D., & Thompson, R. R. (2020). Preparing for the aftermath of COVID-19: Shifting risk and downstream health consequences. *Psychological Trauma: Theory, Research, Practice, and Policy*, 12(1), 31-32. <http://dx.doi.org/10.1037/tra0000853>
10. Fallon, V., Davies, S. M., Silverio, S. A., Jackson, J., & De Pascalis (2021). Psychosocial experiences of postnatal women during the COVID-19 pandemic: A UK-wide study of prevalence

rates and risk factors for clinically relevant depression and anxiety. *Journal of Psychiatric Research*, 136, 157-166. <https://doi.org/10.1016/j.jpsychires.2021.01.048>

11. Francis, J. J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V., Eccles, M. P., & Grimshaw, J. M. (2010). What is an adequate sample size? Operationalising data saturation for theory-based interview studies. *Psychology & health*, 25(10), 1229–1245.  
<https://doi.org/10.1080/08870440903194015>
12. Gov.uk (March, 2020a). *Prime minister's statement on coronavirus (COVID-19): 23 March 2020*.  
Prime Minister's statement on coronavirus (COVID-19): 23 March 2020 - GOV.UK  
([www.gov.uk](http://www.gov.uk))
13. Gov.uk (May, 2020b). *Prime minister's statement on coronavirus (COVID-19): 11 May 2020*.  
Prime Minister's statement on coronavirus (COVID-19): 11 May 2020 - GOV.UK ([www.gov.uk](http://www.gov.uk))
14. Grosseohme, D. & Lipstein, E. (2016). Analyzing longitudinal qualitative data: the application of trajectory and recurrent cross-sectional approaches. *BMC Research Notes*, 9(136), 1-5.  
<https://doi.org/10.1186/s13104-016-1954-1>
15. Guest, G., Bunce, A., & Johnson, L (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1): 59-82.  
<https://doi.org/10.1177/1525822X05279903>
16. Haycraft, E., Witcomb, G. L., & Farrow, C. (2020). The Child Feeding Guide: A digital health intervention for reducing controlling child feeding practices and maternal anxiety over time. *Nutrition bulletin*, 45, 474-482. <https://doi.org/10.1111/nbu.12445>
17. Hermann, A., Fitelson, E. M., & Bergink, V. (2021). Meeting maternal mental health needs during the COVID-19 pandemic. *JAMA Psychiatry*, 78(2), 123-124. <https://doi.org/10.1001/jamapsychiatry.2020.1947>
18. Herzog, D., Killianova, T., Pauwels, S., Germeys, F., & Gidron, Y. (2016). Hemispheric lateralization moderates the life events-distress relationship. *Journal of the International Society for the Investigation of Stress*, 32(1), 47-54

19. Hessami, K., Romanelli, C., Chiurazzi, M., & Cozzolino, M. (2020). COVID-19 pandemic and maternal mental health: A systematic review and meta-analysis. *Journal of Maternal-Fetal & Neonatal Medicine*, 1-8. <https://doi.org/10.1080/14767058.2020.1843155>
20. Iob, E., Frank, P., Steptoe, A., & Fancourt (2020). Levels of severity of depressive symptoms among at-risk groups in the UK during the COVID-19 pandemic. *JAMA Network Open*, 3(10), 1-13. <https://doi.org/10.1001/jamanetworkopen.2020.26064>
21. Irwin, J. L., Davis, E. P., Hobel, C. J., Coussons-Read, M., & Dunkel, C. S. (2020). Maternal prenatal anxiety trajectories and infant developmental outcomes in one-year-old offspring. *Infant Behaviour and Development*, 60, 1-9. <https://doi.org/10.1016/j.infbeh.2020.101468>
22. Jackson et al (2021). Guilt, shame, and postpartum infant feeding outcomes: A systematic review. *Maternal and Child Nutrition*, 1-29. <https://doi.org/10.1111/mcn.13141>
23. Jalkanen, P., Kolehmainen, P., Häkkinen, H. K., Huttunen, M., Tähtinen, P. A., Lundberg, R., Maljanen, S., Reinholm, A., Tauriainen, S., Pakkanen, S. H., Levonen, I., Nousiainen, A., Miller, T., Välimaa, H., Ivaska, L., Pasternack, A., Naves, R., Ritvos, O., Österlund, P., Kuivanen, S...Julkunen, I. (2021). COVID-19 mRNA vaccine induced antibody responses against three SARS-CoV-2 variants. *Nature Communications*, 28(12), 1-11. <https://doi.org/10.1038/s41467-021024285-4>
24. Jardine, J., Relph, S., Magee, L. A., von Dadelszen, P., Morris, E., Ross-Davie, M., Draycott, T., & Khalil, A. (2021). Maternity services in the UK during the coronavirus disease 2019 pandemic: a national survey of modifications to standard care. *BJOG: An international journal of obstetrics and gynaecology*, 128(5), 880–889. <https://doi.org/10.1111/1471-0528.16547>
25. Kobayashi, T., Junt, S., Linton, N. M., Kinoshita, R., Hayashi, K., Miyama, T., Anzai, A., Yang, Y., Yuan, B., Akhmetzhanov, A. R., Suzuki, A., & Nishiura, H. (2020). Communicating the risk of death from novel coronavirus disease (COVID-19). *Journal of Clinical Medicine*, 9(2), 1-7. <https://doi.org/10.3390/jcm9020580>
26. Koelewijn, J. M., Sluijs, A. M., & Vrijkotte, T. G. M. (2017). Possible relationship between general and pregnancy-related anxiety during the first half of pregnancy and the birth process: A prospective cohort study. *BMJ Open*, 7, 1-12. <https://doi.org/10.1136/bmjopen-2016-013413>

27. Kotlar, B., Gerson, E., Petrillo, S., Langer, A., & Tiemeier (2021). The impact of the COVID-19 pandemic on maternal and perinatal health: a scoping review. *Reproductive Health*, 18(10), 1-39.  
<https://doi.org/10.1186/s12978-021-01070-6>
28. Mantica, G., Riccardi, N., Terrone, C., & Gratarola, A. (2020). Non-COVID-19 visits to emergency departments during the pandemic: The impact of fear. *Public Health*, 183, 40-41.  
<https://doi.org/10.1016/j.puhe.2020.04.046> 0033-3506
29. McIntosh, M. J., & Morse, J. M. (2015). Situating and Constructing Diversity in Semi-Structured Interviews. *Global qualitative nursing research*, 2, 2333393615597674.  
<https://doi.org/10.1177/2333393615597674>
30. McLelland, G., Hall, H., Gilmour, C., & Cant, R. (2015). Support needs of breast-feeding women: Views of Australian midwives and health nurses. *Midwifery*, 31(1), 1–6.  
<https://doi.org/10.1016/j.midw.2014.09.008>
31. Misra, S., Le, P. T. D., Goldmann, E., & Yang, L. H. (2020). Psychological impact of anti-Asian stigma due to the COVID-19 pandemic: A call for research, practice, and policy responses. *Psychological Trauma: Theory, Research, Practice, and Policy*, 12(5), 461-464.  
<http://dx.doi.org/10.1037/tra0000821>
32. National Institute for Health and Care Excellence (2021). *Antenatal and postnatal mental health – everything NICE says in an interactive flowchart*. [Antenatal and postnatal mental health overview - NICE Pathways](#)
33. NHS (2020, February). *Your baby's health and development reviews*.  
<https://www.nhs.uk/conditions/baby/babys-development/height-weight-and-reviews/baby-reviews/>
34. NHS (2019, April). *Your 6-week postnatal check*. <https://www.nhs.uk/conditions/baby/support-and-services/your-6-week-postnatal-check/>
35. Nostratabadi, M., Sarabi, N., & Masoudiyekta (2020). A case report of vaginal delivery at home due to fear of COVID-19. *Iranian Journal of Psychiatry*, 15(4), 373-376
36. Office for National Statistics (2020). *Structure and descriptions of unit groups. Revisions to the latest UK Standard Occupational Classification (SOC) and how these affect its classification of*



*similarly-skilled jobs into groups.*

<https://www.ons.gov.uk/methodology/classificationsandstandards/standardoccupationalclassification/soc2020/soc2020volume1structureanddescriptionsofunitgroups>

37. Otu, A., Ahinkorah, B. O., Ameyaw, E. K., Seidu, A. A., & Yaya (2020). One country, two crises: what Covid-19 reveals about health inequalities among BAME communities in the United Kingdom and the sustainability of its health system. *International Journal for Equality in Health*, 19, 1-6. <https://doi.org/10.1186/s12939-020-01307-z>
38. Papworth R, Harris A, Durcan G, Wilton J, Sinclair C. (2021). *Maternal mental health during the pandemic: A rapid evidence review of Covid-19's impact.*  
<https://maternalmentalhealthalliance.org/mmhpanemic/>
39. Peters, L. L., Thornton, C., De Jonhe, A., Khashan, A., Tracy, M., Downe, S., Feijen-De-Jong, E. I., & Dahlen, H. G. (2018). The effect of medical and operative birth interventions on child health outcomes in the first 28 days and up to 5 years of age: A linked data population-based cohort study. *Birth*, 45(4), 347-357. <https://doi.org/10.1111/birt.12348>
40. Raatz, M., Ward, E. C., Marshall, J., Afoakwah, C. & Byrnes, J. (2021). "It takes a whole day, even though it's a one-hour appointment!" Factors impacting access to pediatric feeding services. *Dysphagia*, 36, 419-429
41. Royal College of Gynaecology (2021, February). *Coronavirus (COVID-19) Infection in pregnancy: Information for healthcare professionals.*  
<https://www.rcog.org.uk/globalassets/documents/guidelines/2021-02-19-coronavirus-covid-19-infection-in-pregnancy-v13.pdf>
42. Royal College of Gynaecology (2020, June). Postnatal maternal and infant care during the COVID-19 pandemic: A guide for general practice. Postnatal Maternal and Infant Care during the COVID-19 Pandemic: A guide for General Practice (Version 2) (rcgp.org.uk)
43. Sikorski, C., Van Hees, S., Lakhanpaul, M., Benton, L., Martin, J., Costello, A., & Heys, M. (2018). Could postnatal women's groups be used to improve outcomes for mothers and children in high-income countries? A systematic review. *Maternal and Child Nutrition*, 22(12), 1698-1712.  
<https://doi.org/10.1007/s10995-018-2606-y>

44. Silverio, S.A. (2021). Women's mental health a public health priority: A call for action. *Journal of Public Mental Health*, 20(1), 60-68. <https://doi.org/10.1108/JPMH-04-2020-0023>
45. Silverio, S. A., Rayment-Jones, H., Gubijev, A., Fallon, V., Coxon, K., Bick, D., & Brown, J. M. (2020). *Longitudinal approaches to qualitative analysis: Guidance for practical application*. Qualitative Research Symposium, Bath. (PDF) [Longitudinal Approaches to Qualitative Analysis: Guidance for Practical Application. \(researchgate.net\)](#)
46. Silverio, S.A., De Backer, K., Easter, A., von Dadelszen, P., Magee, L.A., & Sandall, J. (2021). Women's experiences of maternity service reconfiguration during the COVID-19 pandemic: A qualitative investigation. *Midwifery*, 102(103116), 1-9. <https://doi.org/10.1016/j.midw.2021.103116>
47. Snyder, K., & Worlton, G. (2021). Social support during COVID-19: Perspectives of breastfeeding mothers. *Breastfeeding Medicine*, 16(1), 39-45. <https://doi.org/10.1089/bfm.2020.0200>
48. Terry, G., Braun, V., Clarke, V., & Hayfield, N. (2017). *Thematic analysis*. Sage Publications Ltd: London. <https://dx.doi.org/10.4135/9781526405555>
49. UK Government (2021). *What qualification levels mean*. <https://www.gov.uk/what-different-qualification-levels-mean/list-of-qualification-levels>
50. Uzun, N. D., Tuncar, A., Sertel, E., & Tekin, M. (2020). Psychological and social effects of COVID-19 pandemic on obstetrics and gynecology employees. *Journal of Surgery and Medicine*, 4(5) 255-258. <https://doi.org/10.28982/josam.735384>
51. Vazquez-Vazquez A., Dib, S., Rougeaux, E., Wells, J. C., & Fewtrell, M. S. (2021). The impact of the COVID-19 lockdown on the experiences and feeding practices of new mothers in the UK: Preliminary data from the COVID-19 new mum study. *Appetite*, 156, 1-8
52. World Health Organisation. COVID-19 public health emergency of international concern (PHEIC) global research and innovation forum. 2020 Feb. Available from: COVID-19 Public Health Emergency of International Concern (PHEIC) Global research and innovation forum (who.int)

53. World Health Organisation (2013). *WHO recommendations on postnatal care of the mother and newborn*.[9789241506649\\_eng.pdf;jsessionid=C8D50B471E015C6C6E83E02713279280](https://www.who.int/publications-detail/9789241506649_eng.pdf?jsessionid=C8D50B471E015C6C6E83E02713279280)  
([who.int](http://who.int))
54. Zhong, Q. Y., Gelaye, B., Fricchione, G. L., Avillach, P., Karlson, E. W., & Williams, M. A. (2018). Adverse obstetric and neonatal outcomes complicated by psychosis among pregnant women in the United States. *BMC Pregnancy and Childbirth*, 18(1), 1-12