



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



# Postnatal depression and anxiety during the COVID-19 pandemic: The needs and experiences of New Zealand mothers and health care providers

Amelia Ryan\*, Carol Barber

*Te Kura Whatu Oho Mauri, School of Psychology, University of Waikato, Private Bag 3105, Hamilton 3240, New Zealand*

## ARTICLE INFO

### Article history:

Received 3 March 2022

Revised 4 September 2022

Accepted 19 September 2022

### Keywords:

Perinatal mental health

COVID-19 pandemic

Postnatal depression

Postnatal anxiety

Maternal mental health

## ABSTRACT

**Objective:** The postnatal period is a vulnerable time for women's mental health, particularly within the context of the COVID-19 pandemic. This study interviewed Auckland-based mothers and healthcare providers to find out their perspectives on the needs and experiences of women with postnatal mental health concerns within the pandemic context.

**Design:** Semi-structured interviews were conducted via video conferencing.

**Setting:** Interviews were conducted between May and July 2021 during the COVID-19 pandemic.

**Participants:** Participants included eight mothers who gave birth during the first year of the pandemic (between January and December 2020) and self-identified as experiencing postnatal depression and/or anxiety, and three healthcare providers who support women with postnatal mental illness. All participants were based in Auckland, New Zealand.

**Measurements and Findings:** Interviews were analysed using thematic analysis. Five main themes were identified including (1) uncertainty and anxiety, (2) financial and work stress, (3) importance of the "village", (4) inner resilience, and (5) "no one cared for mum". The participants' stories reflected a period of uncertainty, anxiety, and isolation. A lack of focus on mothers' mental health during postnatal healthcare appointments was evident, as well as a lack of support services to refer the women to should they reach out for help.

**Key Conclusions and Implications for Practice:** The results of this study highlight the importance of prioritising safe, in-person access to healthcare providers and sources of social support for postnatal women during pandemic lockdowns to help reduce isolation during this vulnerable time. Improving accessibility to a range of treatment options for those with mild to moderate mental illness also needs to be a priority. A dedicated postnatal mental health support line could be beneficial to broaden the support options available to mothers, both within and outside the pandemic context. More focus on mental health training for midwives and other postnatal healthcare providers such as well child nurses is also recommended, to increase their ability to support women struggling with postnatal mental illness.

© 2022 Elsevier Ltd. All rights reserved.

## Introduction

The postnatal period is a vulnerable time for mothers' mental health, with the risk of depression and anxiety increasing during the postpartum period (Brummelte & Galea, 2010; Marcus, 2009). Experiencing early motherhood in the context of the COVID-19 pandemic has been found to further increase the risk of postnatal mental illness, with recent studies showing postnatal depression and anxiety rates to be as high as 40% and 72% respectively

since the pandemic began (Davenport et al., 2020). High rates of postnatal depression and anxiety during the pandemic have been found in a range of countries including China (Guo et al., 2021; Jiang et al., 2020; Wu et al., 2020), Canada (Davenport et al., 2020), Belgium (Ceulemans et al., 2020), Italy (Guo et al., 2021), United Kingdom (Davenport et al., 2020; Myers & Emmott, 2021), United States of America (Davenport et al., 2020), and The Netherlands (Guo et al., 2021).

These increased rates of postnatal depression and anxiety may be explained by the nature of the pandemic. Given the social distancing measures that most governments have taken to contain the virus, some risk factors associated with postnatal depression and anxiety are thought to have been exacerbated, including reduced

\* Corresponding author.

E-mail addresses: [ryan.amelia.k@gmail.com](mailto:ryan.amelia.k@gmail.com) (A. Ryan), [carrie.barber@waikato.ac.nz](mailto:carrie.barber@waikato.ac.nz) (C. Barber).

social support, high stress associated with child care, and loss of employment (Doyle & Klein, 2020). The relationship between low social support and postnatal depression and anxiety is well documented (Biaggi et al., 2016; Boury et al., 2004; Harrison et al., 2020; Harrison et al., 2021). Ecological systems theory (EST) highlights how health and development is influenced by the connections an individual has with their surrounding context, and the nested levels of influence that explain the potential impacts of events that affect communities as a whole, as well as the families and individuals within those communities (Bronfenbrenner, 1986; Newland, 2015). It is a well-known saying that “it takes a village to raise a child”, with parents requiring community support such as childcare, schooling, healthcare and family connections to provide a child with a healthy upbringing (Newland, 2015). This support is particularly vital for a woman during the postpartum period (Myers & Emmott, 2021). However, due to social distancing, new mothers have often had to care for their new-borns without any outside help from their families, with the lack of support impacting their mental health (Farewell et al., 2020; Myers & Emmott, 2021). Viewing this situation from an EST lens would suggest that the isolation of parents of infants from in-person interactions with friends, family, peers such as mothers’ groups, and health professionals could have a significant effect on the wellbeing and on the development of the parent in their role and relationship with the new-born child.

The impact of pandemic restrictions and experiences may be quite different in different social and community contexts. Different countries not only have implemented different degrees of restriction, but also have different systems of health care and social support. The aim of this study was to interview Auckland-based mothers and healthcare providers to find out what is needed to support postnatal mental health within the pandemic context in New Zealand.

## Methods

This study used qualitative research methods to collect data through in-depth semi-structured interviews conducted via online video conferencing. Interviews were transcribed and then analysed using thematic analysis to identify key themes across the dataset (Braun & Clarke, 2006).

### The researchers

When conducting qualitative research, it is important for the researchers to be clear about the lens through which they are interpreting and analysing the data (Braun & Clarke, 2006), hence acknowledging the researchers’ background and experience with this topic is important. Both researchers are mothers, with the first author having given birth during the pandemic in 2020, experiencing first-hand the additional stressors the pandemic places on both pregnant women and mothers in the postpartum period. Participants were informed of the researcher’s experience with having had a baby during the pandemic. The second author is a mental health professional with clinical, research, and advocacy experience in the domain of perinatal mental health.

### Participants

Participants were recruited from the Auckland region of New Zealand; this is the most populous region of the country, a metropolitan area of approximately 1.7 million people, and had experienced the most disruption due to lockdowns in the first year of the pandemic. This included an initial period of strict lockdown of 51 days during March through May 2020, and an additional period of 42 days of restrictions in August and September.

**Table 1**  
Characteristics of postnatal participants.

Participant	Age (years)	Ethnicity	Number of Children
1	30	NZ European / Pakeha	1
2	33	North American European	2
3	37	NZ European / Pakeha	3
4	33	NZ European / Pakeha	2
5	29	South African	1
6	33	NZ European /Pakeha	1
7	31	NZ European / Pakeha	1
8	40	NZ European / Pakeha	3

Participants were eight Auckland-based mothers (age range 29–40) who gave birth in 2020 and who self-identified as experiencing or having experienced postnatal depression and/or anxiety (Table 1). Six of the women identified as Pākeha (New Zealand European), one as South African, and one as North American European. Four women were first time mothers, two were second-time mothers, and two third-time mothers. All participants identified as female. Recruitment was concluded when the experiences and responses described by participants became redundant, reaching saturation. No participants declined to answer any of the questions asked, and none withdrew from the study.

Healthcare provider participants included one independent registered midwife, one clinical psychologist, and one registered social worker. All three healthcare providers were involved in caring for Auckland women who experience postnatal depression and/or anxiety both during and prior to the pandemic. Participants were recruited through social media pages such as Auckland-based Facebook mothers’ groups, COVID support groups for pregnant and postpartum women, and through the Perinatal Anxiety and Depression Aotearoa (PADA) network. The study was reviewed and approved by the Health Research Ethics Committee of The University of Waikato, study 2021#15. Informed consent was obtained from participants prior to participation.

### Interview process

Semi-structured interviews were conducted between May and July 2021 by the first author using Zoom video conference and recording tools. Informed consent was obtained through sending full information about the study to prospective participants, who then signed and returned a consent form to the interviewer. Confidentiality was maintained through the interviewer confirming that both were in confidential spaces during the interviews. Recordings of the interview were viewed only by the interviewer, and were deleted once data analysis had been completed. During transcription all participants and their whānau (family) members were given pseudonyms to maintain their anonymity. Transcriptions were viewed by the two authors only.

The content of the interview questions was based on the review of existing research on perinatal mental health during the pandemic, as well as the authors’ experiences in perinatal mental health, and being a new mother during the pandemic. Questions focused on finding out how the pandemic had affected the participant, her experience of postnatal mental illness, what type of help she received (if any), what she felt has been helpful and unhelpful for her mental health during the pandemic, and whether she identified anything that was missing that could have been helpful. Healthcare providers were asked how they thought the pandemic has impacted the women they support, any different needs they had identified in service users that are unique to the pandemic context, and whether they felt there was anything missing that would benefit women going through postnatal mental health struggles during a pandemic. Interviews were approximately 1 hour in duration.



Fig. 1. Themes of interviews with mothers and healthcare providers.

### Thematic analysis

Interviews were transcribed using automatic transcription software Otter.ai (<https://otter.ai/>). The automatic transcripts were checked by the first author against the audio recording, and corrections were made to the transcripts to ensure accuracy. The transcripts were then shared with participants to obtain feedback as to whether the transcript accurately reflected their experiences. No participants requested any changes to the transcripts. The transcripts were then analysed using an inductive approach to thematic analysis (Braun & Clarke, 2006). The first author read through each transcript multiple times, and derived initial codes and tentative themes from the transcripts. The first and second authors discussed these initial codes and themes, examining examples and discussing patterns in the data. Themes were determined in collaboration, and then the first author selected example quotes to illustrate the themes, with input from the second author. The themes were then connected together into a thematic map and each theme was defined and named. A final analysis compared each theme again to the initial codes to confirm consistency and comprehensiveness.

### Findings

Five themes were identified, as shown in Fig. 1, including (1) uncertainty and anxiety, (2) financial and work stress, (3) importance of the “village”, (4) inner resilience, and (5) “no one cared for mum”.

#### Uncertainty and anxiety

Uncertainty and anxiety were common experiences described by both mothers and healthcare professionals. The uncertainty of how COVID might be transmitted, how dangerous it was, as well as how it might affect the baby were common concerns.

*How am I going to go anywhere with my daughter? She's so tiny. And it's too dangerous. Because what if one of us picks up COVID? (Participant 5, first-time mother)*

This uncertainty increased anxiety, particularly health anxiety, for many of the women resulting in heightened anxiety around health and hygiene practices.

*How contagious is it? Is it on the surfaces? You're getting a courier, should you be wiping the courier (sic) down? Like all this kind of like, you know, you feel like you're in a movie. That kind of unknown anxiety, that came with it. (Participant 7, first-time mother)*

Uncertainty around how hospitals would operate during lockdown was also an issue. For the midwife that was interviewed, there was a lack of clarity around maternity ward guidelines at hospitals which made it difficult to manage the expectations of the pregnant and birthing women in her care.

*It was difficult as well because the recommendations were like constantly changing...Which was really frustrating because, you know, the women are kind of asking what to expect. (Midwife)*

#### Financial and work stress

Stress relating to work and finances was common, with job loss or reduced income being a very real threat. The midwife noticed that families have had increased financial stress, with fathers needing to return to work earlier than planned.

*I think financially COVID has put a lot of stress on families. So, what I noticed was that there was an added pressure for the dads to be going back to work than what they otherwise might have. Which I think negatively impacted the women as well, being left at home on their own. (Midwife)*

Working from home whilst being pregnant and caring for other children was difficult for some women. For one participant, this meant reducing her hours per week, resulting in a reduction in salary:

*Trying to deal with morning sickness and working from home while caring for my son was a lot. So, I actually spoke with work and reduced my hours and my pay and everything to 80% just because I was like, I'm not gonna be able to do full time from home. (Participant 4, second-time mother)*

For another participant, the stress around her partner's business and its ability to operate during lockdown was distressing enough that her mother was fearful she would miscarry.

#### Importance of the “village”

The stories from the women and healthcare providers revealed how important connection to, and support from, their whānau (family), friends and local community or “village” was to the mental health and wellbeing of the mothers.

*And I think mums and humans in general, we're not meant to be isolated, like especially mums with new-born babies...they really need that village and that support network, and obviously, they can't access that during lockdowns (Psychologist)*

There was a need for connection with others, particularly face-to-face interactions, to help reduce feelings of isolation as well as a need for help from the village in the form of practical support with the baby.

*I would have appreciated more visits, like in-person visits (from well child provider)...I really wanted to speak to someone face to face. (Participant 6, first-time mother)*

*The women were craving to be in-person... they're craving that face-to-face contact. We've learned that actually, normality and in-person stuff is really important for them. (Social worker)*

Lacking a birth partner and support person at appointments was raised as a common concern. During this phase of the pandemic, most hospital and birthing centre rules meant that partners were not allowed to be present until their partner was in active labour, and were required to leave 2 hours after the birth. Partners were also not able to be present during antenatal and postnatal in-person appointments with midwives and well child nurses.

*I just think denying someone a support person is just so wrong...I'd say there's a huge group of mums out there who are*

*really struggling. Going through labour alone. (Participant 1, first-time mother)*

Participants felt that face to face appointments should have continued during lockdown, suggesting the need for a dedicated clinic with adequate PPE to ensure both mum and baby could be seen in-person. One participant had an infected c-section scar that was not picked up initially due to the lack of face-to-face appointments with her midwife:

*My (c-section) scar got infected...She (midwife) would call me and be like how're things going? And I'm like, oh my scars really sore. And it wasn't until like, probably two weeks later, we actually realised it was really infected. (Participant 1, first-time mother)*

There was also a need for practical help with the baby and older children, particularly during lockdowns.

*I think like at any time, it's always the practical support. I think even more so during the pandemic, it's that whole idea that, you know, you're not supposed to be doing this on your own...This is so far removed from how we're naturally wired, right, like naturally wired for connection. (Psychologist)*

The importance of practical support from whānau (family) was highlighted by the difference this support made to women who were able to access it.

*This is where I'm really lucky because I actually, we live with my in-laws...I know a lot of women were freaking out, like, what am I supposed to do with my other child (at the birth)? And if my husband comes into the hospital with me, like, technically, we can't get babysitters and stuff like that...I was lucky, I didn't have to worry about that. Because I knew that grandma and granddad were going to be home. (Participant 2, second-time mother)*

#### Inner resilience

There was a common pattern of the women drawing on their own inner resilience to cope. Women described three factors that related to resilience: drawing from prior experience, emotion regulation, and self-advocacy.

Drawing on their past parenting and mental health experience helped some of the women to put in place strategies that supported coping and resilience. For example, second- and third-time mothers mentioned how they were able to draw on their previous experience with parenting to help them feel less anxious during their birth, hospital stay and postpartum:

*And like I said, second baby, so I was a lot more confident. I think if it had happened with my first, I would have been way more of an emotional mess. (Participant 2, second-time mother)*

Similarly, women who had experienced mental illness prior to the postnatal period had insight into what helped improve their mental health; this gave them motivation to participate in those healthy coping strategies.

*And so, with the third one, I was very concerned that I would get it (postnatal depression) again. And so, we put a lot of things in place when deciding to have the third of like, how we would respond to me, like what are red flags, that as soon as I start feeling this way, we do something about it. (Participant 3, third-time mother)*

The women also utilised a range of emotion regulation strategies that helped them to cope, including taking time to exercise, spending time in nature, journaling, and self-care. Many of the women found going out for a walk or being in nature helpful to their mood:

*I've been trying to do things like, go take them for a walk...I can have some fresh air and some deep breaths and some space and that helps me. (Participant 4, second-time mother)*

For one participant, writing down her thoughts and emotions when she was feeling distressed helped her to cope:

*I wrote a letter of how can I just channel this? Like all of this emotion...And I just like wrote about what was going on. (Participant 1, first-time mother)*

Another participant found talking to others about her experiences helped:

*When I first spoke to [well child agency], I actually felt so much better... Just getting something off your chest is always helpful. (Participant, third-time mother)*

Some of these emotion regulation strategies were also recommended by the healthcare providers to help their clients cope.

*I talk about ways to try and bring yourself back into your physical body. Yeah, like, cold water on the face, or, you know, go take your shoes off and go and stand on the grass in your bare feet. (Midwife)*

Finally, many of the women mentioned the need to advocate for themselves, particularly with doctors and midwives. Trusting your gut and pushing for your needs was required during this period, where issues could be overlooked due to phone only appointments, as well as healthcare providers being extremely busy during lockdowns.

*Whether it's yourself or your partner, or, or a family member, like just have someone who can really back you up... Just making sure that you really, really stamp your authority. If you think that you need something that you're not getting. (Participant 1, first-time mother)*

*"No one cared for mum"*

A final theme emerged from the women's stories about a lack of care for mothers' mental health during the postnatal period. There was a lack of focus on mothers' mental health during postnatal appointments, and a lack of support services available when women did reach out for help.

*And I guess that's the big thing that got missed during COVID I suppose is just having someone care for mum, because there was no one else that could come in and do it...I think no one cared for mum. (Social worker)*

Many mothers perceived postnatal appointments, particularly with well child providers, to lack focus on their own wellbeing:

*[Well child agency] basically was no support...Weigh her (the baby), measure her. Alright, we'll see you in another three months. I'm in there for all of maybe 15 minutes (Participant 6, first-time mother).*

Some mothers described a lack of connection between mothers and their well child nurse, making it difficult for the women to be open and honest about their struggles.

*Because the appointments are so few and far between, like, I don't really feel like I have a huge connection with her (well child nurse). Like, I haven't really felt that personal connection. So probably, I'm not like, super comfortable bringing it (mental health struggles) back up again (Participant 6, first-time mother)*

If mothers did reach out for help, they described finding a lack of action, follow up, and support services for healthcare providers to connect them with.



*I feel like the system is broken...I went to my GP the other day. And I said to her, you know like, I'm not coping...I feel like getting some counselling to actually figure out a better way of dealing with how I feel and finding some better coping strategies would be really, really useful... She was like, well, you're probably gonna have to pay for them. And they're expensive...we are sort of talking like \$85 upwards a session. (Participant 6, first-time mother)*

It was mentioned that there is a need for dedicated postnatal mental health support for new mothers. One recommendation was a postnatal support phone line that is focussed on the mother rather than baby.

*There is [Well child agency] line. But maybe it would be good if we had like another phone line to ring...specific for postnatal, because I think people are only going to really ring [Well child agency] line if it's like, oh, my baby's got a rash or it's, it's very much centred around the baby...I don't really feel like I would say if you're worried about your mental health, you can ring [Well child agency] line. (Midwife)*

It was also suggested that there is a need for more emphasis on mental health training for midwives, as this is limited according to the midwife interviewed:

*I really feel that we do need more education for midwives around mental health. Both antenatally and postnatally...If someone discloses that they are struggling, if I don't actually know what to say, or do, then you feel a bit useless. So, then there's the tendency to not ask the question. (Midwife)*

## Discussion

This study interviewed New Zealand women about their needs and experiences with postnatal mental illness during the COVID-19 pandemic. Experiencing stressors that are uncontrollable, such as pandemics and natural disasters, has been found to increase maternal mental health struggles (Perzow et al., 2021). Uncertainty and anxiety were common experiences for the women interviewed for this study, especially related to health and finances. Research has found a link between the intolerance of uncertainty and anxiety, with higher intolerance of uncertainty associated with depression and a range of anxiety disorders (Carleton et al., 2012; McEvoy & Mahoney, 2012). The mothers interviewed for this study commented how hard that initial period of the pandemic was because of the level of uncertainty and unpredictability. Health anxiety has been reported to be more common since the pandemic began (Tull et al., 2020); This may be due to the link between health anxiety and media coverage of diseases, which has been pervasive during the pandemic (Sunderland et al., 2013). The pandemic has also been associated with greater financial worry (Paxson et al., 2012; Perzow et al., 2021; Tull et al., 2020), with financial strain during the pandemic positively associated with depression scores on the Edinburgh Postnatal Depression Scale (Cameron et al., 2020). The increased uncertainty, anxiety and financial stress experienced by the women in this study, therefore is consistent with what others have found about the impact of the pandemic and links between uncertainty and distress.

The participants' stories reflected a period of isolation due to a lack of face-to-face connection with their "village", as well as a lack of practical help from the wider whānau (family) that is typically more present during the postnatal period outside the pandemic context. Social support is an important protective factor against depression and anxiety symptoms; the more social support a woman receives during the postpartum period, the less likely she is to suffer from mental illness (Perzow et al., 2021; Terada et al., 2021). Being physically distanced from others breaks the natural ties and culturally-embedded traditions that

typically have new parents surrounded and held by family, community, and professional supports (Newland, 2015). The loss of these formal and informal connections may contribute to the levels of distress mothers experience during these challenging times (Brooks et al., 2020). Social distancing and lockdown measures have been found to increase feelings of isolation for postpartum women (Marroquín et al., 2020), which aligns with the experiences of the women interviewed for this study. In addition to the need for face-to-face connection with others, there was a need for practical help with the baby and older children, particularly during lockdowns. Practical support such as help with cooking, cleaning and caring for the baby has been found to be highly beneficial to maternal mental health (Davis et al., 2020; Gjerdingen & Chaloner, 1994; Gjerdingen et al., 1991), and this makes sense given EST, which describes how human connections and embeddedness in systems support healthy development across the life cycle (Bronfenbrenner, 1986). Conversely, lack of practical support has been associated with higher scores on the EPDS (Stojanov et al., 2021).

Many of the women mentioned the need for self-advocacy with medical professionals. Hagan and colleagues (2017) found that medical patients who self-advocate tend to have improved health outcomes and more patient-centred care. However, there are barriers to self-advocating, such as a lack of understanding of medical information, the perception that the medical professional is the expert, and fears of ruining the patient-provider relationship (Wiltshire et al., 2006). This highlights the importance of having a support person present during perinatal care. Banerjee and colleagues (2021) found that whānau (family) of women with severe mental illness help to express the woman's needs when she may not be able to do this herself, and several studies have found that continuous support during labour from a partner, relative, friend or doula is associated with increased satisfaction with the birth, as well as lower postnatal depression and anxiety rates (Campbell et al., 2007; Sapkota et al., 2013; Scott et al., 1999). The quality of interactions and connections between parents and healthcare providers are an important aspect of the maternity care experience that appears to have been especially vulnerable in the context of the pandemic.

Many mothers perceived postnatal healthcare appointments to be heavily focused on the baby, which is an issue that has been identified in studies in the United Kingdom, Australia and Canada (Coates & Foureur, 2019; Megnin-Viggars et al., 2015; Turner et al., 2010). According to the midwife interviewed, the maternal mental health service in Auckland provides women who meet criteria (a score of 17 or higher on the EPDS) with fully funded care. However, for women who do not meet this criterion, such as those who experience mild to moderate depressive symptoms, there are limited options outside of medication available. Talk therapy, if offered, is available at a significant cost, which is often unattainable for those on a reduced income during the postnatal period. It has been found that women generally prefer talk therapies over pharmacological treatments (Biggs et al., 2019), yet access to talk therapies within New Zealand is limited due to long waitlists for psychologists and counsellors, as well as significant expense (Paterson et al., 2018).

These findings are consistent with the findings of the New Zealand Mental Health Inquiry, which was an investigation conducted in 2018 with the purpose of evaluating the state of mental health and addiction services (Paterson et al., 2018). The inquiry found a gap in services for those with mild to moderate mental illness. It also identified a lack of choice when it comes to mental health care, with an overreliance on medication. The inquiry highlighted the need for a variety of options of mental health care, to cater to the broad range of diagnoses, cultures and individual differences that exist within the community (Paterson et al., 2018).

## Recommendations

The findings of this study suggest that improving access to in-person healthcare and social support during a pandemic could help reduce distress and suffering in postnatal women. Safe, in-person check-ups with postpartum women and their babies should be prioritised, while still ensuring the safety of the healthcare professional and patients through social distancing and mask-wearing protocols (Alhomaizi et al., 2021). Ensuring that women have a support person throughout their pregnancy, birth and postpartum care is also vital to give women the emotional and practical support they need when faced with the challenges of the perinatal period.

The midwife interviewed for this study felt there was a lack of training on mothers' mental health during her midwifery training. A lack of training in perinatal mental health has been identified in the literature as a significant barrier to midwives screening for mental illness both within New Zealand (Schmied et al., 2013) and globally (Bayrampour et al., 2018; Coates & Foureur, 2019; Viveiros & Darling, 2019). Incorporating perinatal mental health training in midwifery education could help to reduce the barriers to mothers accessing postnatal mental health support (Bayrampour et al., 2018).

Another implication of this study is the need for dedicated postnatal mental health support for New Zealand mothers. There is evidence to suggest that mothers are more likely to reach out for help if there is a service that understands the complex nature of perinatal mental health struggles (Chandra et al., 2019). A dedicated postnatal mental health support line would provide an accessible service to women experiencing mild to moderate perinatal distress who do not meet criteria for public maternal mental health services. It would also transcend the barriers of the pandemic, as it could be contacted from the safety of home.

There is also the need for affordable and quick access to talk therapy (Paterson et al., 2018). Currently, there are considerable costs and long wait lists for New Zealanders to visit a counsellor or psychologist. In Australia, GPs can provide access to up to 20 fully subsidized psychological appointments per calendar year (Australian Government Department of Health, 2021). This access is available to anyone who meets criteria for a mental health disorder, regardless of severity, and is not restricted based on household income (Australian Government Department of Health, 2021). Introducing a similar system in New Zealand could improve accessibility of talk therapies, regardless of income or illness severity. There are significant barriers to implementing such an initiative, including cost as well as the availability of counsellors and psychologists to meet demand. The NZ Mental Health Inquiry has identified that this is an important area to help improve access and affordability to mental healthcare for all New Zealanders (Paterson et al., 2018).

## Strengths and limitations

This study has a range of limitations that need to be taken into consideration when interpreting these results. Firstly, the study was unsuccessful at recruiting any Māori participants. Specific efforts were made to recruit Māori participants, but these were not effective. Future research should focus on Māori women's experiences of the postnatal period during the pandemic. There may be differences in Māori mothers' experiences related to their specific culture and context, and considering that Māori are overrepresented in mental health statistics (Ministry of Health, 2014), finding out the needs of Māori mothers is important.

Another limitation was the lack of geographical diversity of the participants. Participants for this study were Auckland-based due to this region being the most impacted by lockdowns through-

out the pandemic to date. Studies with a broader geographical scope could explore the perspectives and stories of those living in smaller centres or rural areas. This study was also limited by the small number of healthcare providers who participated. Recruitment seemed to be hindered by the increased pressure placed on healthcare providers by the pandemic which was still ongoing during the period of time the interviews for this study were conducted. Future studies might ask providers to reflect in retrospect on their observations from this time.

This study is cross-sectional, meaning that the participants' views represent one moment in time. It has been suggested that longitudinal studies of the mental health impact of the pandemic are needed (Chen & Bonanno, 2020). It may be that the women's opinions on this topic change as the pandemic progresses, and that needs are different depending on how the pandemic and its response continues to progress, such as the impact of the vaccine rollout and changes to restrictions and public health policies in response to subsequent waves of the pandemic.

While longitudinal studies are needed, a strength of this study is that the interviews were conducted about one year into the pandemic. This allowed the participants time to adjust to the initial stress of the pandemic, as well as experience multiple lockdowns, giving them the experience and hindsight to be able to see what had been helpful, unhelpful and what was missing. The experiences of the women were also consistent with the findings of the Mental Health Inquiry which was conducted in 2018, before the pandemic emerged, suggesting that some of these gaps in services are not only confined to the pandemic context.

Finally, this study utilised a qualitative method, which can introduce bias due to the researchers' expectations or experiences. While it is not possible to eliminate subjectivity completely, it can be reduced through being transparent about the personal biases of the researchers, collaborating with other researchers, sharing the transcripts with participants to ensure their views have been captured correctly, and using quotes to support each theme (Noble & Smith, 2015).

## Conclusion

Through hearing the experiences of healthcare providers and women who have given birth during the pandemic, this study brings some light to the mental health impact of the pandemic on mothers. Considering that the COVID-19 pandemic is ongoing, and future pandemics are inevitable, ensuring that mental health treatment and face-to-face connection to social support is easily accessible to women in the vulnerable postnatal period may help to protect not only the mother's wellbeing, but that of her baby and whānau (family).

## Ethical approval

This study was reviewed and approved by the Health Research Ethics Committee of The University of Waikato, study 2021#15. Informed consent was obtained from participants prior to participation.

## Data sharing statement

The data used in this study is not publicly available due to the possibility of it compromising the privacy of the research participants.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## CRediT authorship contribution statement

**Amelia Ryan:** Conceptualization, Methodology, Validation, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Project administration.  
**Carol Barber:** Conceptualization, Methodology, Validation, Formal analysis, Resources, Writing – original draft, Writing – review & editing, Supervision, Funding acquisition.

## Funding Sources

University of Waikato internal research funding.

## Acknowledgements

The authors gratefully acknowledge the women who participated in this study.

## Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.midw.2022.103491](https://doi.org/10.1016/j.midw.2022.103491).

## References

- Alhomaizi, A., Alhomaizi, D., Willis, S., Verdelli, H., 2021. Social distancing in the era of COVID-19: a call for maintaining social support for the maternal population. *Global Health* 9 (2), 229–237. doi:[10.9745/gghsp-d-20-00398](https://doi.org/10.9745/gghsp-d-20-00398).
- Australian Government Department of Health, 2021. Better Access Initiative. [https://www.health.gov.au/initiatives-and-programs/better-access-initiative?utm\\_source=health.gov.au&utm\\_medium=callout-auto-custom&utm\\_campaign=digital\\_transformation](https://www.health.gov.au/initiatives-and-programs/better-access-initiative?utm_source=health.gov.au&utm_medium=callout-auto-custom&utm_campaign=digital_transformation).
- Banerjee, D., Arasappa, R., Chandra, P.S., Desai, G., 2021. Hear me out”: experiences of women with severe mental illness with their healthcare providers in relation to motherhood. *Asian J. Psychiatry* 55, 102505. doi:[10.1016/j.ajp.2020.102505](https://doi.org/10.1016/j.ajp.2020.102505).
- Bayrampour, H., Hapsari, A.P., Pavlovic, J., 2018. Barriers to addressing perinatal mental health issues in midwifery settings. *Midwifery* 59, 47–58. doi:[10.1016/j.midw.2017.12.020](https://doi.org/10.1016/j.midw.2017.12.020).
- Biaggi, A., Conroy, S., Pawlby, S., Pariante, C.M., 2016. Identifying the women at risk of antenatal anxiety and depression: a systematic review. *J. Affect. Disord.* 191, 62–77. doi:[10.1016/j.jad.2015.11.014](https://doi.org/10.1016/j.jad.2015.11.014).
- Biggs, L.J., McLachlan, H.L., Shafiei, T., Liamputtong, P., Forster, D.A., 2019. 'I need help': reasons new and re-engaging callers contact the PANDA—Perinatal Anxiety and Depression Australia National Helpline. *Health Soc. Care Commun.* 27 (3), 717–728. doi:[10.1111/hsc.12688](https://doi.org/10.1111/hsc.12688).
- Boury, J., Larkin, K., Krummel, D., 2004. Factors related to postpartum depressive symptoms in low-income women. *Women Health* 39 (3), 19–34. doi:[10.1300/J013v39n03\\_02](https://doi.org/10.1300/J013v39n03_02).
- Braun, V., Clarke, V., 2006. Using thematic analysis in psychology. *Qual. Res. Psychol.* 3 (2), 77–101.
- Bronfenbrenner, U., 1986. Ecology of the family as a context for human development: research perspectives. *Dev. Psychol.* 22 (6), 723.
- Brooks, S.K., Webster, R.K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N., Rubin, G.J., 2020. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet North Am. Ed.* 395 (10227), 912–920. doi:[10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8).
- Brummelte, S., Galea, L.A.M., 2010. Depression during pregnancy and postpartum: Contribution of stress and ovarian hormones. *Prog. Neuropharmacol. Biol. Psychiatry* 34 (5), 766–776. doi:[10.1016/j.pnpbp.2009.09.006](https://doi.org/10.1016/j.pnpbp.2009.09.006).
- Cameron, E.E., Joyce, K.M., Delaquis, C.P., Reynolds, K., Protudjer, J.L.P., Roos, L.E., 2020. Maternal psychological distress & mental health service use during the COVID-19 pandemic. *J. Affect. Disord.* 276, 765–774. doi:[10.1016/j.jad.2020.07.081](https://doi.org/10.1016/j.jad.2020.07.081).
- Campbell, D., Scott, K.D., Klaus, M.H., Falk, M., 2007. Female relatives or friends trained as labor doulas: outcomes at 6 to 8 weeks postpartum. *Birth* 34 (3), 220–227. doi:[10.1111/j.1523-536X.2007.00174.x](https://doi.org/10.1111/j.1523-536X.2007.00174.x).
- Carleton, R.N., Mulvogue, M.K., Thibodeau, M.A., McCabe, R.E., Antony, M.M., Asmundson, G.J.G., 2012. Increasingly certain about uncertainty: Intolerance of uncertainty across anxiety and depression. *J. Anxiety Disord.* 26 (3), 468–479. doi:[10.1016/j.janxdis.2012.01.011](https://doi.org/10.1016/j.janxdis.2012.01.011).
- Ceulemans, M., Hompes, T., Foulon, V., 2020. Mental health status of pregnant and breastfeeding women during the COVID-19 pandemic: a call for action. *Int. J. Gynecol. Obstet.* 151 (1), 146–147. doi:[10.1002/ijgo.13295](https://doi.org/10.1002/ijgo.13295).
- Chandra, P.S., Saraf, G., Bajaj, A., Satyanarayana, V.A., 2019. The current status of gender-sensitive mental health services for women—findings from a global survey of experts. *Arch. Women's Mental Health* 22 (6), 759–770. doi:[10.1007/s00737-019-01001-2](https://doi.org/10.1007/s00737-019-01001-2).
- Chen, S., Bonanno, G.A., 2020. Psychological adjustment during the global outbreak of COVID-19: a resilience perspective. *Psychol. Trauma* 12 (S1), S51–S54. doi:[10.1037/tra0000685](https://doi.org/10.1037/tra0000685).
- Coates, D., Foureur, M., 2019. The role and competence of midwives in supporting women with mental health concerns during the perinatal period: a scoping review. *Health Soc. Care Commun.* 27 (4), e389–e405. doi:[10.1111/hsc.12740](https://doi.org/10.1111/hsc.12740).
- Davenport, M.H., Meyer, S., Meah, V.L., Strynadka, M.C., Khurana, R., 2020. Moms are not OK: COVID-19 and maternal mental health [Original Research]. *Front. Global Women's Health* (1) 1. doi:[10.3389/fgwh.2020.00001](https://doi.org/10.3389/fgwh.2020.00001).
- Davis, W., McCue, K., Papierniak, B., Raines, C., Simanis, L., 2020. Emotional and practical needs in postpartum women. *Handbook of Perinatal Clinical Psychology: From Theory to Practice*.
- Doyle, F.L., Klein, L., 2020. Postnatal depression risk factors: an overview of reviews to inform COVID-19 research, clinical, and policy priorities [systematic review]. *Front. Global Women's Health* (14) 1. doi:[10.3389/fgwh.2020.577273](https://doi.org/10.3389/fgwh.2020.577273).
- Farewell, C.V., Jewell, J., Walls, J., Leiferman, J.A., 2020. A mixed-methods pilot study of perinatal risk and resilience during COVID-19. *J. Prim. Care Commun. Health* 11, 1–8. doi:[10.1177/2150132720944074](https://doi.org/10.1177/2150132720944074).
- Gjerdingen, D.K., Chaloner, K.M., 1994. The relationship of women's postpartum mental health to employment, childbirth, and social support. *J. Fam. Pract.* 38 (5), 465–472. [https://cdn.mdedge.com/files/s3fs-public/jfp-archived-issues/1994-volume\\_38-39/JFP\\_1994-05\\_v38\\_i5\\_the-relationship-of-women-s-postpartum-m.pdf](https://cdn.mdedge.com/files/s3fs-public/jfp-archived-issues/1994-volume_38-39/JFP_1994-05_v38_i5_the-relationship-of-women-s-postpartum-m.pdf).
- Gjerdingen, D.K., Froberg, D.G., Fontaine, P., 1991. The effects of social support on women's health during pregnancy, labor and delivery, and the postpartum period. *Fam. Med.* 23 (5), 370–375. <http://europepmc.org/abstract/MED/1884933>.
- Guo, J., De Carli, P., Lodder, P., Bakermans-Kranenburg, M.J., Riem, M.M.E., 2021. Maternal mental health during the COVID-19 lockdown in China, Italy, and the Netherlands: a cross-validation study. *Psychol. Med.* 1–11. doi:[10.1017/S0033291720005504](https://doi.org/10.1017/S0033291720005504).
- Hagan, T.L., Rosenzweig, M.Q., Zorn, K.K., van Londen, G.J., Donovan, H.S., 2017. Perspectives on self-advocacy: comparing perceived uses, benefits, and drawbacks among survivors and providers. *Oncol. Nursing Soc.* 44 (1), 52. doi:[10.1188/17.ONF.52-59](https://doi.org/10.1188/17.ONF.52-59).
- Harrison, V., Moore, D., Lazard, L., 2020. Supporting perinatal anxiety in the digital age: a qualitative exploration of stressors and support strategies. *BMC Pregnancy Childbirth* 20 (1), 363. doi:[10.1186/s12884-020-02990-0](https://doi.org/10.1186/s12884-020-02990-0).
- Harrison, V., Moulds, M.L., Jones, K., 2021. Perceived social support and prenatal wellbeing: the mediating effects of loneliness and repetitive negative thinking on anxiety and depression during the COVID-19 pandemic. *Women Birth* doi:[10.1016/j.wombi.2020.12.014](https://doi.org/10.1016/j.wombi.2020.12.014).
- Jiang, H., Jin, L., Qian, X., Xiong, X., La, X., Chen, W., Yang, X., Yang, F., Zhang, X., Abudukelimu, N., Li, X., Xie, Z., Zhu, X., Zhang, X., Zhang, L., Wang, L., Li, L., Li, M., 2020. Evidence of accessing antenatal care information via social media platforms supports mental wellbeing in COVID-19 epidemic. *Bull. World Health Org.* doi:[10.2471/BLT.20.255489](https://doi.org/10.2471/BLT.20.255489).
- Marcus, S.M., 2009. Depression during pregnancy: rates, risks and consequences. *J. Population Therapeut. Clin. Pharmacol.* 16 (1), e15–e22.
- Marroquin, B., Vine, V., Morgan, R., 2020. Mental health during the COVID-19 pandemic: effects of stay-at-home policies, social distancing behavior, and social resources. *Psychiatry Res.* 293, 113419. doi:[10.1016/j.psychres.2020.113419](https://doi.org/10.1016/j.psychres.2020.113419).
- McEvoy, P.M., Mahoney, A.E.J., 2012. To be sure, to be sure: intolerance of uncertainty mediates symptoms of various anxiety disorders and depression. *Behav. Ther.* 43 (3), 533–545. doi:[10.1016/j.beth.2011.02.007](https://doi.org/10.1016/j.beth.2011.02.007).
- Megnin-Viggars, O., Symington, I., Howard, L.M., Pilling, S., 2015. Experience of care for mental health problems in the antenatal or postnatal period for women in the UK: a systematic review and meta-synthesis of qualitative research. *Arch. Women's Mental Health* 18 (6), 745–759. doi:[10.1007/s00737-015-0548-6](https://doi.org/10.1007/s00737-015-0548-6).
- Ministry of Health. (2014). Tatau Kahukura: Māori Health Statistics <https://www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics/nga-mana-hauora-tutohu-health-status-indicators/mental-health#1>
- Myers, S., Emmott, E.H., 2021. Communication Across Maternal Social Networks During England's First National Lockdown and Its Association With Postnatal Depressive Symptoms. *Front. Psychol.* (1583) 12. doi:[10.3389/fpsyg.2021.648002](https://doi.org/10.3389/fpsyg.2021.648002).
- Newland, L.A., 2015. Family well-being, parenting, and child well-being: pathways to healthy adjustment. *Clin. Psychol.* 19 (1), 3–14.
- Noble, H., Smith, J., 2015. Issues of validity and reliability in qualitative research. *Evid. Based Nursing* 18 (2), 34–35. doi:[10.1136/eb-2015-102054](https://doi.org/10.1136/eb-2015-102054).
- Paterson, R., Durie, M., Disley, B., Tiatia-Seath, S., Tualamali'i, J., & Rangihuna, D. (2018). He Ara Oranga: report of the government inquiry into mental health and addiction. <https://mentalhealth.inquiry.govt.nz/inquiry-report/he-ara-oranga>
- Paxson, C., Fussell, E., Rhodes, J., Waters, M., 2012. Five years later: recovery from post traumatic stress and psychological distress among low-income mothers affected by Hurricane Katrina. *Soc. Sci. Med.* 74 (2), 150–157. doi:[10.1016/j.socscimed.2011.10.004](https://doi.org/10.1016/j.socscimed.2011.10.004).
- Perzow, S.E.D., Hennessey, E.-M.P., Hoffman, M.C., Grote, N.K., Davis, E.P., Hankin, B.L., 2021. Mental health of pregnant and postpartum women in response to the COVID-19 pandemic. *J. Affect. Disord. Rep.* 4, 1–7. doi:[10.1016/j.jadr.2021.100123](https://doi.org/10.1016/j.jadr.2021.100123).
- Sapkota, S., Kobayashi, T., Takase, M., 2013. Impact on perceived postnatal support, maternal anxiety and symptoms of depression in new mothers in Nepal when their husbands provide continuous support during labour. *Midwifery* 29 (11), 1264–1271. doi:[10.1016/j.midw.2012.11.010](https://doi.org/10.1016/j.midw.2012.11.010).
- Schmied, V., Johnson, M., Naidoo, N., Austin, M.-P., Matthey, S., Kemp, L., Mills, A., Meade, T., Yeo, A., 2013. Maternal mental health in Australia and New Zealand: a review of longitudinal studies. *Women Birth* 26 (3), 167–178. doi:[10.1016/j.wombi.2013.02.006](https://doi.org/10.1016/j.wombi.2013.02.006).



- Scott, K.D., Klaus, P.H., Klaus, M.H., 1999. The obstetrical and postpartum benefits of continuous support during childbirth. *J. Women's Health Gender-Based Med.* 8 (10), 1257–1264. doi:[10.1089/jwh.1.1999.8.1257](https://doi.org/10.1089/jwh.1.1999.8.1257).
- Stojanov, J., Stankovic, M., Zikic, O., Stankovic, M., Stojanov, A., 2021. The risk for nonpsychotic postpartum mood and anxiety disorders during the COVID-19 pandemic. *Int. J. Psychiatr. Med.* 56 (4), 228–239. doi:[10.1177/0091217420981533](https://doi.org/10.1177/0091217420981533).
- Sunderland, M., Newby, J.M., Andrews, G., 2013. Health anxiety in Australia: prevalence, comorbidity, disability and service use. *Br. J. Psychiatry* 202 (1), 56–61. doi:[10.1192/bjp.bp.111.103960](https://doi.org/10.1192/bjp.bp.111.103960).
- Terada, S., Kinjo, K., Fukuda, Y., 2021. The relationship between postpartum depression and social support during the COVID-19 pandemic: a cross-sectional study. *J. Obstet. Gynaecol. Res.* 47 (10), 3524–3531. doi:[10.1111/jog.14929](https://doi.org/10.1111/jog.14929).
- Tull, M.T., Edmonds, K.A., Scamaldo, K.M., Richmond, J.R., Rose, J.P., Gratz, K.L., 2020. Psychological outcomes associated with stay-at-home orders and the perceived impact of COVID-19 on daily life. *Psychiatry Res.* 289, 113098. doi:[10.1016/j.psychres.2020.113098](https://doi.org/10.1016/j.psychres.2020.113098).
- Turner, K.M., Chew-Graham, C., Folkes, L., Sharp, D., 2010. Women's experiences of health visitor delivered listening visits as a treatment for postnatal depression: a qualitative study. *Patient Educ. Couns.* 78 (2), 234–239. doi:[10.1016/j.pec.2009.05.022](https://doi.org/10.1016/j.pec.2009.05.022).
- Viveiros, C.J., Darling, E.K., 2019. Perceptions of barriers to accessing perinatal mental health care in midwifery: a scoping review. *Midwifery* 70, 106–118. doi:[10.1016/j.midw.2018.11.011](https://doi.org/10.1016/j.midw.2018.11.011).
- Wiltshire, J., Cronin, K., Sarto, G.E., Brown, R., 2006. Self-advocacy during the medical encounter: use of health information and racial/ethnic differences. *Med. Care* 44 (2), 100–109. doi:[10.1097/01.mlr.0000196975.52557.b7](https://doi.org/10.1097/01.mlr.0000196975.52557.b7).
- Wu, Y., Zhang, C., Liu, H., Duan, C., Li, C., Fan, J., Li, H., Chen, L., Xu, H., Li, X., Guo, Y., Wang, Y., Li, X., Li, J., Zhang, T., You, Y., Li, H., Yang, S., Tao, X., Huang, H.F., 2020. Perinatal depressive and anxiety symptoms of pregnant women during the coronavirus disease 2019 outbreak in China. *Am. J. Obstet. Gynecol.* 223 (2), 240.e241–240.e249. doi:[10.1016/j.ajog.2020.05.009](https://doi.org/10.1016/j.ajog.2020.05.009).