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

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Abstract

The postnatal period is a vulnerable time for women's mental health, particularly within the context of the COVID-19 pandemic. To date, there have been no studies based in New Zealand that have asked mothers who gave birth during the pandemic about their needs and experiences with postnatal depression and/or anxiety.

The aim of this study was to interview Auckland-based mothers and health care providers to find out their needs and experiences with postnatal mental health within the pandemic context. Eleven semi-structured interviews were conducted, consisting of eight mothers who gave birth during the pandemic and self-identified as experiencing postnatal depression/anxiety, and three healthcare providers who support women with postnatal mental illness. Overall, 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.

Recommendations based on this study are to prioritise safe, in-person access to important sources of support and healthcare for postnatal women during the pandemic. 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 for New Zealand women could be beneficial to broaden the support options available to mothers, both within and outside the pandemic context. More focus on maternal mental health training for midwives and other postnatal health care providers such as Plunket nurses is also warranted, to increase their ability to support women struggling with postnatal mental illness.

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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). The transition to motherhood is a time of immense physical, social, emotional and economic change for both parents, particularly the mother (Katz-Wise et al., 2010; Nazarinia Roy, 2014). There is the physical recovery from the birth, commonly involving pelvic floor issues, pain, breast problems, and exhaustion (Woolhouse et al., 2012). Hormonal activity after birth can impact a mother's emotional state leading to postpartum mood changes, such as the postpartum blues that occur between 1 and 3 days postpartum in approximately 60-80% of mothers (Hendrick et al., 1998; Manjunath et al., 2011; Schiller et al., 2015). There is the challenge of establishing breastfeeding, which may be a source of stress and shame if this journey does not progress according to the mother's or society's expectations (Penniston et al., 2021). Sleep deprivation, an expected yet difficult aspect of the postpartum period, can cause a range of negative effects on mood and ability to cope with parenting stress (Meltzer & Mindell, 2007). Shifts in social support are common, with some relationships falling away, while new relationships are formed that are more aligned with the mother's role as a parent (Bost et al., 2002). Additionally, there are the financial pressures that come with raising a child, with family income often reducing after childbirth due to one parent becoming the primary caregiver, at the same time as expenses increase (Kamalifard et al., 2014; Tomlinson, 2006). Considering the broad range of changes that occur during the postpartum period, it is understandable that the risk of depression and anxiety increases after the birth of baby.

Symptoms and prevalence of postnatal depression and anxiety

Postpartum depression, similar to depression outside the postnatal period, is characterised by low mood, sadness, loss of pleasure in previously enjoyable activities, sleep and appetite disturbances, irritability or anger, decreased energy, thoughts of hopelessness, and suicidal ideation (Mental Health Foundation of New Zealand, 2019). The symptoms of depression can change over time and vary between individuals (Mental Health Foundation of New Zealand, 2019).

Depression is more common in women than men, with women two times more likely to experience an episode of depression than their male counterparts (Nolen-Hoeksema & Hilt, 2009; Piccinelli & Wilkinson, 2000). This difference by gender is found across cultures and ethnicities (Nolen-Hoeksema & Hilt, 2009). The global rate of postnatal depression is approximately 17.7% based on a recent meta-analysis study that analysed 291 studies from 56 countries (Hahn-Holbrook et al., 2017). Prevalence rates were found to vary significantly between nations ranging from 3% in Singapore through to 38% in Chile (Hahn-Holbrook et al., 2017). Nations with higher wealth inequality, maternal and infant mortality, and women of childbearing age working 40 plus hours per week were more likely to have higher rates of postpartum depression (Hahn-Holbrook et al., 2017).

Anxiety-related problems in the postnatal period can include phobias, post-traumatic stress disorder, generalized anxiety disorder, panic disorder, and obsessive-compulsive disorder (Dindo et al., 2017). Symptoms vary between individuals, commonly involving persistent fear and worry, irritability, insomnia, panic attacks, avoidance of situations due to fear, and physical symptoms such as heart palpitations (Centre for Perinatal Excellence, 2021). Based on a meta-analysis of 102 studies across 34 countries, the global prevalence of postnatal

anxiety was found to be approximately 17.8% in the first month after birth, dropping to approximately 15% for the remainder of the postpartum period (Dennis et al., 2017). Prevalence was found to be higher in low to middle income countries compared to high income countries, which may be due to environmental factors, such as resources being focused on preventing maternal mortality rather than preventing maternal mental health issues (Dennis et al., 2017).

As with anxiety and depression outside the postnatal period, postnatal anxiety often co-occurs with postnatal depression (Misri et al., 2015; Reck et al., 2008; Sanderson et al., 1990). Reck et al. (2008) found approximately 33% of women with diagnosed postnatal depression were also diagnosed with a postnatal anxiety disorder. It is to be noted that Reck et al.'s (2008) study may lack generalisability as it was completed in a primarily middle-class and highly educated German sample. A World Health Organisation study on the occurrence of anxiety and depression within primary health care settings found comorbidity of approximately 50% (Sartorius et al., 1996). This study was conducted across 15 sites globally, which may be more representative due to a larger sample size across a range of nations and cultures.

Within Aotearoa, prevalence for postnatal depression has been estimated to range between 7.8% and 16.4% (Abbott & Williams, 2006; McGill et al., 1995; Thio et al., 2006; Webster et al., 1994). Thio et al (2006) found prevalence to be 16.4%; however, their sample only included women who identified as Pakeha (New Zealand European), limiting generalisability. Abbott & Williams (1995) looked at the prevalence within Auckland Pacific mothers and found it to be 16.4%, with prevalence varying significantly between groups, from 7.6% in Samoan mothers through to 30.9% for Tongan mothers. Webster et al (1994)

found the prevalence to be 7.8%; however, they measured at 4 weeks postpartum which may have underestimated the true prevalence as cases may not have reached their peak yet. Similarly, McGill et al. (1995) found 13% of their sample of Christchurch mothers met criteria for depression; however, they tested between 6-9 months postpartum which may have missed cases that presented earlier and were resolved before testing. More recently, the longitudinal Growing Up in New Zealand study of 6384 mothers found that rates of postnatal depression symptoms at 9 months postpartum (a score of 12 or greater on the Edinburgh Postnatal Depression Scale) were 11% (Morton et al., 2012). The Growing Up in New Zealand study has been able to recruit large numbers of mothers from a range of ethnicities including Māori, Pacific and Asian backgrounds, helping this study to be more representative of the diversity of the New Zealand population (Morton et al., 2012).

There have been limited studies into the differences between Māori and non-Māori rates of postnatal depression and anxiety. When it comes to negative mental health outcomes, Māori tend to be overrepresented, with Māori adults being 1.5 times more likely to have experienced an anxiety or depressive disorder and 1.9 times more likely to have experienced psychological distress in their lifetime compared to non-Māori adults (Ministry of Health, 2014). Webster et al. (1994) found that Māori mothers were more at risk of postnatal depression than non-Māori mothers; however, their sample size was small. In the Growing Up in New Zealand study, it was found that Asian, Pacific and Māori mothers were more likely to have poorer postnatal mental health than New Zealand Pakeha women (Morton et al., 2012).

Risk factors associated with postnatal depression and anxiety

While any woman who has had a baby may be vulnerable to mental health struggles, there are a number of risk factors that have been associated with postnatal depression including prior history of depression, depression and anxiety during pregnancy, poor social support, and lower socioeconomic status (Doyle & Klein, 2020; Leigh & Milgrom, 2008). Lack of social support has been well established as a risk factor for postnatal depression and anxiety (Boury et al., 2004; Doyle & Klein, 2020; Harrison et al., 2020; Harrison et al., 2021; Howell et al., 2006; Leahy-Warren et al., 2011; Lebel et al., 2020; Racine et al., 2020). Racine et al. (2020) conducted a large longitudinal study in Canada looking at the association of social support with perinatal depression. They followed pregnant women from the second trimester through to 36 months postpartum and found that women with low perceived social support were approximately 3 times more likely to experience postnatal depression (a score of ≥ 13 on the Edinburgh Postnatal Depression Scale) than those with higher levels of social support (Racine et al., 2020). It should be noted that there was a lower prevalence of postnatal depression (4.3%) in this study than the global estimated prevalence of 17.7% (Hahn-Holbrook et al., 2017), possibly due to this sample consisting of women who had high levels of social support, income and education, which may limit generalisability to higher risk populations (Racine et al., 2020). Similarly, Leahy-Warren et al. (2011) investigated the link between social support and postnatal depression in 512 new mothers based in Ireland. Their sample had a more typical postnatal depression prevalence rate of 13.2%, and found that higher levels of social support was associated with lower postnatal depression scores on the Edinburgh Postnatal Depression Scale at both 6 and 12 weeks postpartum (Leahy-

Warren et al., 2011). A range of other studies (Boury et al., 2004; Doyle & Klein, 2020; Harrison et al., 2020; Harrison et al., 2021; Howell et al., 2006; Lebel et al., 2020) have found similar results highlighting the importance of social support for the mental wellbeing of mothers in the postnatal period.

Lower socioeconomic status has also been found to be a risk factor for postnatal depression in both high-income (Boury et al., 2004; Howell et al., 2006; Seguin et al., 1999) and low-income countries (Cooper et al., 1999; Patel et al., 2002). In a study of low-income women from an American community setting, the prevalence of depressive symptoms (ranging from mild to severe on the Beck Depression Inventory) was 51% (Boury et al., 2004), which is significantly higher than the global estimated postnatal depression prevalence of 17.7% (Hahn-Holbrook et al., 2017). Similarly, 38.2% of low-income women from a Canadian sample were found to have depressive symptoms at 6 months postpartum, with lack of money for basic needs being associated with symptoms (Seguin et al., 1999). However, both of these studies measured depressive symptoms using the Beck Depression Inventory, which may not be as accurate at measuring depressive symptoms in postnatal populations due to the inclusion of somatic symptoms, such as fatigue and loss of energy, that may be caused by physiological and practical changes in the mother rather than depression (Cox et al., 1987). This may have increased the prevalence rates found in these studies compared to the global estimated prevalence which was determined through comparing studies that utilised the Edinburgh Postnatal Depression Scale (Hahn-Holbrook et al., 2017).

Studies in low-income countries have also found higher rates of postnatal depression than the global average. Patel et al. (2002) found that a sample of

women based in the economically deprived region of Goa, India had a postnatal depression prevalence rate of 23% (measured as a score of ≥ 12 on the Edinburgh Postnatal Depression Scale). Cooper et al. (1999) found that South African women in the economically deprived urban settlement of Khayelitsha had a postnatal depression prevalence rate of 34%, which was determined using the DSM-IV Structured Clinical Interview for major depression. These studies demonstrate that for women living in both high-income and low-income countries, low socioeconomic status appears to be associated with an increased risk of postnatal depression.

Impact of postnatal depression and anxiety on the infant

Unfortunately, postnatal depression not only affects the mother herself, but can also affect her baby's social, cognitive and emotional development over both the short and long term (Cogill et al., 1986; Fihrer et al., 2009; Josefsson & Sydsjö, 2007; Murray, 1992; Murray et al., 2010; Murray & Cooper, 1996; Sharp et al., 1995). For infants of mothers with postnatal depression, poorer performance on object permanence tasks, increased rates of insecure attachment, and mild behavioural difficulties have been observed (Murray, 1992). The impact can be seen in infants as young as 4 months old, with lower cognitive functioning being linked to maternal postpartum depression (Hoffman et al., 2017). A similar relationship has been observed for postnatal anxiety, with reduced social-emotional ability of toddlers aged 2 years old (Hoffman et al., 2017). A relationship has also been found between children who had mothers with depression in the first year postpartum and internalising (e.g. depression, anxiety, withdrawal) and externalising problems (e.g. aggressiveness, disruptiveness) in early school years from age 6-8 (Fihrer et al., 2009). However, it appears that

externalising behaviours are primarily associated with maternal depression at the time the behaviours occur, rather than postnatal depression alone (Führer et al., 2009; Josefsson & Sydsjö, 2007). The impact of postnatal depression on the child can be observed all the way through to adolescence, where poorer GCSE results have been found in boys aged 16 years old (Murray et al., 2010). Increased rates of depression as well as cortisol levels have also been found in adolescent children who had been exposed to postnatal depression during infancy (Halligan et al., 2004; Murray et al., 2011). It is believed that the link between postnatal depression and child developmental outcomes is due to the first year of life being a sensitive period for the child's development (Bagner et al., 2010). The infant relies heavily on their primary caregiver to provide them with safety and nurturing during this period, which requires the caregiver to be responsive and sensitive. Postnatal depression can hinder the ability of the mother to provide this type of response to the baby in a consistent manner, reducing the likelihood of developing a secure attachment between mother and child (McMahon et al., 2006; Murray, 1992).

It should be noted that the child is not the only family member to suffer when a mother develops postnatal depression. Partners of mothers experiencing postnatal depression have an increased risk of mental health struggles, including suffering postnatal depression themselves (Beestin et al., 2014; Boath et al., 1998; Paulson & Bazemore, 2010). It has been found that 10% of fathers experience postnatal depression, which is a significant increase from the average depression prevalence rate of 5% for men outside the postnatal period (Paulson & Bazemore, 2010). Fathers have reported that maternal postnatal depression can result in the mother being absent either psychologically, emotionally or physically, which can

create a parenting gap that the father needs to fill (Beestin et al., 2014). Fathers, more so than mothers, view parenting as an interdependent role, so when their partner is unavailable due to postnatal depression, fathers can find parenting more isolating and challenging (Beestin et al., 2014). There can also be negative impacts on the partnership due to increased stress for the household when a mother is unwell (Beestin et al., 2014; Boath et al., 1998). It has been suggested that support services are needed for partners and close family members to help reduce the extra stress placed on the family (Boath et al., 1998). These negative outcomes for both the infant and wider whānau highlight the importance of the prevention and treatment of postnatal depression.

The COVID-19 pandemic

In December 2019, a new strain of the SARS virus known as COVID-19 had begun to spread rapidly amongst the population in Wuhan, China (World Health Organisation, 2021). A global pandemic was declared on 11 March 2020 by the World Health Organisation, with the virus having reached 114 countries around the world (World Health Organisation, 2021). Transmission of the virus was through close contact between humans, allowing respiratory particles to spread through coughing, sneezing, speaking or breathing heavily (World Health Organisation, 2020a). Due to this, social distancing measures were recommended, with many countries putting their citizens into stay-at-home lockdowns or enforcing social distancing practices such as maintaining 2 metres distance between people in public spaces.

The New Zealand response to the pandemic has been considered successful compared to many countries around the globe, with borders being closed quickly and a relatively short lockdown of 8 weeks put in place for the

country between 23 March to 13 May 2020 (New Zealand Government: Unite Against COVID-19, 2021). This fast response saw a return to zero active cases by 8 June 2020 (New Zealand Government: Unite Against COVID-19, 2021). Since then, the country was able to return to relative normality for most of 2020 through to August 2021, when the delta variant was first detected in the community and the whole country once again went into lockdown (New Zealand Government: Unite Against COVID-19, 2021). However, for residents based in Auckland, New Zealand's largest city, additional lockdowns were required in August 2020 and February 2021 (New Zealand Government: Unite Against COVID-19, 2021). These additional lockdowns were reported to result in hundreds of job losses particularly in the hospitality industry (NZ Herald, 2020). It would be expected that the pandemic has hit Aucklanders harder both financially and emotionally due to having moved in and out of lockdowns more frequently than the rest of New Zealand.

The postnatal period in the context of COVID-19

Experiencing early motherhood in the context of the COVID-19 pandemic has been found to 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 have been found in a range of countries including China (Guo et al., 2021; Jiang et al., 2020; Ran et al., 2020; Sun 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; Vazquez-Vazquez et al., 2021), United States of America (Davenport et al., 2020), and The Netherlands (Guo et al., 2021).

Davenport et al. (2020) conducted an online survey of pregnant and postpartum women to find out how the pandemic was affecting their mental health. They had 900 women participate from a range of countries including Canada, America, Australia, India, Europe, Brazil and China. Using the Edinburgh Postnatal Depression Scale, 15% of participants retrospectively scored as having depression prior to the pandemic (a score ≥ 13), which increased to 40.7% during the pandemic. Similarly, self-rated anxiety (State Trait Anxiety Inventory score of ≥ 40) rose from 29% pre-pandemic to 72% during the pandemic. These results may not generalise to other populations due to this sample of women being primarily Caucasian from Canada. Pre-pandemic levels of depression and anxiety may also not reflect an accurate picture as they were recalled rather than reported at the time, resulting in possible recall bias (Davenport et al., 2020).

Similarly, Wu et al. (2020) conducted a cross-sectional study in China looking into anxiety and depression in pregnant women, prior to and after the pandemic was declared. They assessed 2839 women in their third trimester prior to the declaration of the outbreak, and 1285 women in their third trimester after the declaration of the outbreak, using the Edinburgh Postnatal Depression Scale. They found significantly higher rates of depression and anxiety once the pandemic was declared, as well as significantly increased thoughts of self-harm (Wu et al., 2020). Pre-pandemic scores were recorded at that time, avoiding recall bias. This study looked at women based across 10 provinces in China. Hence, current research does suggest that the pandemic is increasing the risk of postnatal mental illness across a range of countries. To date, no research could be found on the prevalence of postnatal mood and anxiety disorders in New Zealand during the COVID pandemic.

The impact of uncertainty

These increased rates of perinatal depression and anxiety may be explained by the nature of the pandemic. The pandemic has come with a significant amount of uncertainty, not only surrounding the impact the disease can have on differing populations, but also how it is spreading, and how to prevent the spread (Merow & Urban, 2020). The impact the virus could have on pregnancy and birth was initially not fully understood (Rasmussen et al., 2020). Two studies of pregnant women in China who contracted COVID-19 in the third trimester were published in early 2020, with one finding no greater risk of serious outcomes than the general population; however, the sample consisted of only nine women (Chen et al., 2020). The second study found that the clinical presentation of the virus in pregnant mothers did not differ from the general population; however, fetal distress and preterm labour were observed in 6 of the 9 pregnancies (Zhu et al., 2020). Later it was advised that women in the third trimester were at greater risk of contracting and experiencing serious outcomes from the virus due to the changes to the immune system that occur during pregnancy, as well as the increased strain on the lungs in the third trimester when the baby's oxygen needs are higher (New Zealand Government: Unite Against Covid-19, 2020; World Health Organisation, 2020b). However, pregnant women were not added to the vulnerable population list on the New Zealand government COVID-19 website, resulting in ongoing uncertainty for many, particularly in relation to workplace and healthcare precautions (New Zealand Government: Unite Against Covid-19, 2020).

This uncertainty would be expected to place additional stress on pregnant women who not only worry about their own compromised health, but that of their

baby. A study conducted in Colorado, USA interviewed and surveyed pregnant women during the pandemic to find out the impact of the pandemic on their mental health and wellbeing (Farewell et al., 2020). They found a key source of stress was the uncertainty surrounding health care and exposure risk (Farewell et al., 2020). They mentioned fears of the unknown risk to themselves and their baby during pregnancy, uncertainty as to whether their partner would be allowed to be present at the birth, and the lack of information about the risk to the baby once born (Farewell et al., 2020). They found high depressive symptoms in 12% of the women as well as moderate to severe anxiety in 60% of the sample (Farewell et al., 2020). It has been suggested that reducing the uncertainty around COVID-19 may help to reduce depression and anxiety rates (Bakioğlu et al., 2020).

The impact of social distancing

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, increasing the vulnerability of women's perinatal mental health (Doyle & Klein, 2020). Risk factors such as perceived low social support, high stress associated with child care, exposure to traumatic events such as family violence, and loss of employment are expected to have been impacted (Doyle & Klein, 2020).

As previously mentioned, 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; Howell et al., 2006). It is a well-known saying that "it takes a village to raise a child", and there is not a more vital time for a woman to be surrounded by her village than during the postpartum

period (Myers & Emmott, 2021). However, due to social distancing, new mothers have often had to care for their newborns without any outside help from their families. Some have found this beneficial, as this time without visitors or wider whānau allowed them to focus on bonding properly with their baby (Farewell et al., 2020). However, for many it has been a struggle, with the lack of support taking its toll on their mental health (Farewell et al., 2020; Myers & Emmott, 2021).

There has also been a reduction in wider support networks, such as parenting support groups and coffee groups for new mothers (Doyle & Klein, 2020; Farewell et al., 2020). These traditional forms of support have at times needed to be cancelled, or delivered virtually via phone or video calls. In addition to this, many daycares and schools have had to be closed to contain the virus (Zhao et al., 2020). This has resulted in many parents needing to home-school or care for their children while also working from home, without support from extended family and friends (Zhao et al., 2020). Frequent stress related to childcare has been identified as a risk factor for postnatal depression, particularly when there is a lack of outside help available (Honey et al., 2003).

Furthermore, being confined at home with family members, sometimes in volatile or stressful situations, has seen an increase in domestic violence around the globe (Usher et al., 2020). Since quarantine measures have been implemented, Google searches in Australia for domestic violence support increased by 75%, and countries such as China, France and the United States have experienced a 30% increase in domestic violence call outs (Usher et al., 2020). Within New Zealand, there is limited research on domestic violence rates since the COVID-19 pandemic began; however, police have reported a small increase in

callouts for domestic violence on the first weekend of the first Level 4 lockdown in March 2020 (Human Rights Commission, 2020). Other than this, police domestic violence call out rates have remained similar to pre-COVID levels (Human Rights Commission, 2020). However, the Human Rights Commission has specified that this does not mean there has been no impact on the rate of domestic violence within New Zealand, but rather that there is an absence of studies that have gathered data on women's experiences during the pandemic (Human Rights Commission, 2020). Mothers exposed to domestic violence have been found to be at greater risk of developing postnatal depression (Flach et al., 2011; Ludermir et al., 2010; Wu et al., 2012), which is concerning during the pandemic considering the increased number of women reaching out for domestic violence support (Usher et al., 2020).

Social distancing measures have also resulted in loss of employment, with unemployment rates rising around the world due to business disruptions caused by the pandemic response (International Labor Organisation, 2020). Globally it has been estimated that an additional 114 million job losses occurred in 2020 compared to 2019, with women and young workers impacted most (International Labor Organisation, 2020). Within New Zealand, women made up two thirds of job losses between March and September 2020 (Stats NZ Tatauranga Aotearoa, 2020). Regardless of having a high or low income, pregnant women who experience financial stress related to COVID-19 have been found to be at increased risk of developing clinical depression (Thayer & Gildner, 2020). For mothers in the postnatal period surveyed in April 2020, it was found that over one third of mothers had financial strain due to COVID-19, and that financial strain and employment loss were positively associated with depression scores on the

Edinburgh Postnatal Depression Scale, highlighting the link between financial strain and postnatal depression during the pandemic (Cameron et al., 2020).

Despite these negative impacts of social distancing, it has been found that the pandemic response has resulted in an increase in some sources of resilience (Farewell et al., 2020). Farewell et al (2020) conducted a pilot study to examine the mental health effects, as well as sources of resilience, of the COVID-19 pandemic for women in the perinatal period. They utilised a mixed methods design, conducting both phone interviews and an online survey, with 31 women residing in Colorado, USA. The women reported more time for sleep, physical activity and eating healthy meals due to working from home becoming more commonplace during the pandemic (Farewell et al., 2020). Having partners working from home has increased emotional support and time spent together, which has been found to be a source of resilience for women in healthy relationships (Farewell et al., 2020). More time spent outdoors has also been possible where lockdown restrictions allow citizens to leave their homes for exercise (Farewell et al., 2020). While some sources of resilience have been increased due to social distancing, certain risk factors for postnatal mental illness have been exacerbated such as reduced access to social support, higher stress related to childcare, increased exposure to domestic violence, and increased financial stress.

Treatment strategies for postnatal depression and anxiety

Recommended treatment for postnatal depression includes a variety of pharmacological and nonpharmacological options. Pharmacological options include the use of antidepressant medication and hormone therapy (Cipriani et al., 2018; Craig, 2016; Gregoire et al., 1996; Molenaar et al., 2018; Molyneaux et al.,

2014); nonpharmacological options consist of psychological therapy such as cognitive behavioural therapy and psychosocial support such as peer support groups (Fitelson et al., 2010; Myoraku et al., 2018). Antidepressants such as selective serotonin reuptake inhibitors have been found to be effective at reducing depressive symptoms; however, there are limited studies evaluating their effectiveness during the postnatal period (Cipriani et al., 2018; Craig, 2016; Molyneaux et al., 2014). Studies that have investigated the use of antidepressants in the postnatal period have had small sample sizes, have lacked generalisability due to excluding women with severe depression, and have had high attrition rates (Molyneaux et al., 2014). The decision to take medication during the postnatal period is complicated by a range of factors. There is the stigma that still exists around the use of medication, particularly during a time of life that is meant to be joyful, albeit tiring (Fitelson et al., 2010). If the mother is breastfeeding, the medication can transfer to the baby through breastmilk, with limited long-term research showing the impact this could have on the baby (Galbally et al., 2020). Short term effects in the baby can include drowsiness, poor sleep, irritability and withdrawal symptoms (Laskey, 2021). The potential adverse effects of taking anti-depressant medication during breastfeeding needs to be weighed up on a case-by-case basis with the potential adverse effects on the infant of having a mother who is struggling with their mental health (Laskey, 2021). Anti-depressant medication is recommended for use in severe depression, and as a second tier option of treatment for those with mild to moderate depression who do not respond to psychotherapy (Molenaar et al., 2018).

Hormone therapy, a less common pharmacological treatment option, is based on the premise that the rapid drop in oestrogen and progesterone at birth can

trigger postnatal depression in women with a sensitivity to hormone changes (Fitelson et al., 2010; Myoraku et al., 2018). While anti-depressant medication and psychotherapy are typically the recommended treatments for postnatal depression, some studies have found that oestrogen therapy may be effective at reducing depressive symptoms (Myoraku et al., 2018). Further research is still needed to examine the effectiveness and safety of the use of hormone therapy for postpartum depression (Li et al., 2020; Moses-Kolko et al., 2009).

Non-pharmacological treatments such as psychological therapy have strong evidence of effectiveness during the postnatal period, particularly the use of cognitive behavioural therapy and interpersonal psychotherapy (Huang et al., 2018; Milgrom et al., 2015; Milgrom et al., 2005; Sockol, 2018; Tolin, 2010). Cognitive behavioural therapy involves identifying and challenging unhelpful thoughts, beliefs, and behaviours that may be contributing to depression or anxiety (American Psychological Association, 2017). It is typically a short-term treatment that takes approximately 8-12 sessions (American Psychological Association, 2017). Studies have found that cognitive behavioural therapy is effective at treating postnatal depression symptoms in the short and long term, and may in fact be more effective than anti-depressants alone, or CBT in combination with anti-depressants (Huang et al., 2018; Milgrom et al., 2015; Milgrom et al., 2005). Similarly, interpersonal psychotherapy is an effective preventative intervention and treatment for perinatal depression and anxiety (Sockol, 2018). This type of therapy is a short term treatment of approximately 12-16 sessions, which is focussed on the way that relationships can influence and maintain depressive symptoms (Sockol, 2018).

Evidence has also shown the value of psychosocial support such as group interventions. Being able to meet up with peers who are going through similar issues can help reduce feelings of isolation and normalise the experience of postnatal depression (Goodman & Santangelo, 2011). Dennis (2005) completed a meta-analysis of the research on individual and group interventions for postnatal depression and found that individual interventions, particularly intensive interventions delivered by health professionals, were more effective than group interventions at reducing depressive symptoms. However, often individualised therapy is costly and requires significant resources to implement; group interventions such as peer support groups can provide a cost and resource effective option (Goodman & Santangelo, 2011). Goodman & Santangelo's (2011) systematic review of 11 studies on group treatments (including structured groups such as CBT interventions, as well as less structured peer support groups) found that all but one study saw reductions in depressive symptoms, providing support for the effectiveness of group treatments. Similarly, one recent study found that a free peer support group intervention had overwhelmingly positive feedback from mothers, with a reduction in depressive symptoms post intervention (Prevatt et al., 2018). Mothers reported feeling less isolated, less stigma for what they were going through, and more socially supported (Prevatt et al., 2018). While group therapy can be effective, common issues include large group sizes (it is recommended that group numbers are kept to 6-8 people to ensure adequate time for everyone to speak) as well as secondary traumatization which can occur when hearing another's distress (Prevatt et al., 2018). However, if these aspects are well managed, support groups have been found to be effective forms of support for women experiencing postnatal mental illness (Goodman &

Santangelo, 2011; Prevatt et al., 2018).

As can be seen, there are a range of treatment options for postnatal depression and anxiety, including both pharmacological and non-pharmacological options. It would depend on the severity of symptoms and the preferences of the woman as to which treatment options would be utilised.

How treatment strategies have been impacted by COVID-19

Due to social distancing measures brought about by the COVID-19 pandemic, face to face treatments such as psychological therapy and support groups have often had to alter their method of delivery to virtual care such as via phone or video calls (Chen et al., 2021). Telehealth has been found to be effective in perinatal populations, as it can help to overcome barriers such as lack of access to travel, lack of childcare options, as well as the irregularity of baby sleep schedules (Dalfen et al., 2021). Virtual appointments have also been found to be as effective as face to face appointments for reducing depressive symptoms in mild to moderate (Ashford et al., 2016) as well as severe postnatal depression (Dalfen et al., 2021).

However, the downside to virtual delivery is that it requires individuals to have internet and phone access, as well as be technologically savvy (Chen et al., 2021). This can present a financial barrier, as well as exclude those less confident with technology (Chen et al., 2021). It is estimated that approximately 6% of New Zealanders do not have internet access, meaning that this subset of the population is less able to be served by the full range of telehealth services (Smith et al., 2016). Answering video or phone calls at home, which is often necessary during lockdowns, can also present privacy issues due to the risk of being overheard by other household members (Chen et al., 2021). This would

particularly be of concern for individuals experiencing domestic violence (Chen et al., 2021). It can also be harder to connect with another person via video or phone call, as non-verbal communication is often missing that would otherwise be visible in a face to face interaction (Chen et al., 2021). Considering that face to face psychotherapy (Huang et al., 2018; Milgrom et al., 2015; Milgrom et al., 2005; Tolin, 2010) and support groups (Goodman & Santangelo, 2011; Prevatt et al., 2018) are effective at supporting recovery from postnatal depression and anxiety, it is important that we study the effectiveness of modifications made necessary by pandemic restrictions, in order to better plan and implement supports for mothers in future pandemics.

The current study

The key question mental health researchers during the pandemic have been encouraged to focus on is what can be done to help vulnerable populations (Hotopf et al., 2020). A UK group of experts, including senior mental health clinicians as well as those with lived experience of mental illness, were convened to put forward recommendations for COVID-19 mental health research (Hotopf et al., 2020). Their recommendations included to focus research on which populations are most affected, and what can be done to reduce the increased morbidity of those populations (Hotopf et al., 2020). Considering the significant increase in postpartum depression and anxiety since the COVID-19 pandemic began (Ceulemans et al., 2020; Davenport et al., 2020; Farewell et al., 2020; Guo et al., 2021; Jiang et al., 2020; Ran et al., 2020; Sun et al., 2020; Vazquez-Vazquez et al., 2021; Wu et al., 2020) research into mitigating the impact of postpartum mental illness is warranted. Postpartum depression and anxiety are a global health challenge with significant impacts not only for the mother herself,

but her baby's social, cognitive and emotional development (Cogill et al., 1986; Fihrer et al., 2009; Josefsson & Sydsjö, 2007; Murray, 1992; Murray et al., 2010; Murray & Cooper, 1996; Sharp et al., 1995). It is therefore vital that appropriate support is provided to this vulnerable population (Davenport et al., 2020; Glasheen et al., 2010). The good news is that while there is an impact on baby's development, this impact is time limited, with ongoing impacts on the child being associated with prolonged episodes or multiple episodes of maternal depression (Stewart et al., 2003). Hence, helping reduce the length and recurrence of postnatal depression and anxiety helps to protect the child from long term impacts, as well as reducing the suffering of the family unit as a whole.

To the author's knowledge, there have been no studies, either within New Zealand or globally, that have focused on finding out what new mothers feel is needed to best support their postnatal mental health in the context of the COVID-19 pandemic. The aim of this study was to interview New Zealand women who gave birth during the pandemic and experienced postnatal depression and/or anxiety, as well as mental health and maternity care providers, to find out what is most needed to support postnatal mental health within the context of the pandemic. Research questions were focussed on finding out what helped support the mental health of the women, and identify anything that was ineffective or missing that could have helped.

Methodology

The aim of this study was to interview New Zealand women with lived experience of postnatal depression and/or anxiety who gave birth during the pandemic, as well as mental health and maternity care providers, to find out what

is most needed to support postnatal mental health within the context of the pandemic.

Qualitative Research Methods

This study used qualitative research methods to collect data through in-depth semi-structured interviews. Interviews were transcribed and then analysed using thematic analysis (Braun & Clarke, 2006). Qualitative research allows the researcher to gather rich and detailed data from the participant, and is a recommended method for research on sensitive topics (Elmir et al., 2011). Sensitive research topics have the potential to elicit negative emotions such as anger, anxiety and sadness in the participant (Cowles, 1988) with mental health research falling into this category (Alty & Rodham, 1998). In-depth semi-structured interviews allow the researcher to create a safe and non-judgemental space for the participant to share their story while being able to respond in the moment to any signs of distress in the participant (Elmir et al., 2011). When conducting qualitative research, it is important for the researcher to be aware of the inherent subjectivity of both the researcher and participant (Noble & Smith, 2015). While it is not possible to eliminate subjectivity completely, staying aware of its presence, and minimising its influence at each stage of the research process, can help the research to be as bias-free as possible. Subjectivity can be reduced through being transparent about the personal biases of the researcher, collaborating with other researchers to reduce subjectivity, sharing the transcripts and final themes with participants to ensure their views have been captured correctly, and using quotes directly from participants to support each theme (Noble & Smith, 2015). As qualitative research often has smaller samples than quantitative methods, it is limited in its ability to be generalised to a wide

population (Noble & Smith, 2015). However, there is still a place for qualitative research, particularly within mental health research where subjective experience is a vital piece of the puzzle (Crowe et al., 2015).

The Researcher

When conducting qualitative research, it is important for the researcher to be clear about the lens through which they are interpreting and analysing the data (Braun & Clarke, 2006), hence acknowledging the researcher's background and experience with this topic is important. I am a mother of two children, aged one and four. I experienced postnatal depression with my first child, however did not develop postnatal depression with my second. I gave birth to my second child during the pandemic in June 2020, experiencing first-hand the additional stressors the pandemic places on both pregnant women and mothers in the postpartum period. I have often thought of the women who were suffering postnatal depression in the context of the pandemic, and wondered what was needed to support recovery in such a context. Having experienced the postpartum period from both a healthy and unwell perspective, I have become passionate about this area of mental health, as well as found hope that suffering can be reduced through early intervention and support. My hope is that this research can help shed light on any unmet needs of New Zealand mothers suffering postnatal mental illness during the pandemic.

Ethics Approval

Ethics approval was granted on 7 May 2021 by the Human Research Ethics Committee (Health) of the University of Waikato, reference number 2021#15. Key aspects to ensuring the safety of the participants in this study are outlined below.

Informed Consent. Obtaining informed consent is a vital aspect of ethical research and a requirement of the New Zealand Code of Ethics for Psychologists working in Aotearoa/New Zealand (New Zealand Psychologists Board, 2002). During the recruitment process, the study purpose and method were outlined transparently to the participant, and any questions they had answered. If they expressed interest in participating, the Information for Participants sheet (Appendix A) and consent form (Appendix B) were emailed to the participant. The participant was asked to read through the material and if still happy to participate, to complete the consent form and return it via email. It was made clear to the participant that they were able to withdraw from the study at any point until one month after the completion of their participation when data analysis would be in progress. Participants were given the chance to review the transcript of their interview and given two weeks to return any changes or corrections.

Confidentiality and anonymity. Due to the sensitive nature of the data collected, it was important that participants' confidentiality was maintained in all stored data and reporting. To ensure this, each participant was given a pseudonym and any identifying information was removed when writing this thesis. Access to the raw data including transcripts of each interview was restricted to myself and my supervisor.

Participant distress. While the likelihood of harm from participating in this study was small, experiencing distress during the interview when talking about mental health struggles was a possibility. Recalling difficult memories can create distress in the moment; however, if the interview is conducted in a safe and sensitive manner, the sharing of information is not expected to cause long term

negative outcomes (Kavanaugh & Ayres, 1998) and may be therapeutic for some participants (Elmir et al., 2011). Guidelines on how to conduct interviews on sensitive topics were followed (Dempsey et al., 2016; Kavanaugh & Ayres, 1998) which included taking time to build rapport at the beginning of the interview; giving the option to have a support person present; and adopting a flexible approach where questions flowed between sensitive and less-sensitive aspects of the participant's experience. I stayed attuned to the verbal and non-verbal cues of the participant to identify any distress. If the participant indicated they were experiencing distress, I would ask if they would like to take a break or end the interview (Kavanaugh & Ayres, 1998).

Some participants were experiencing current depression and anxiety. Suicidal and self-harm thoughts can be a symptom of depression. While the interview did not aim to ask participants about suicidal thoughts or self-harm, the participants might at times have brought this up. If they had been experiencing suicidal or self-harm thoughts, it was intended that the interview be stopped and I would have supported the participant to reach out to help including their GP, whānau (family) and a mental health professional should they have a relationship with them already. If participants were recalling memories of periods when they have experienced suicidal thoughts, I would have stayed attuned to signs of distress in the participant, and if detected, asked if they would like to stop the interview or take a break. A list of support services was provided to each participant at the conclusion of the interview so that they could connect with support if necessary (Appendix C). Overall, I recognised how much courage and vulnerability it takes to talk about mental health struggles, hence endeavoured to create a safe, non-judgemental space for the participant to share their story. No

participants mentioned thoughts of suicide or self-harm, or expressed distress during the interviews.

Cultural sensitivity. In order to create a safe space for the participants, it was vital that the interviews were conducted in a culturally sensitive manner. I have had extensive training on how to support both Māori and Pasifika people with mental health struggles through employment as a mental health support worker. Based on this training, as well as exploring current literature for best practice (Hudson et al., 2010; Moyle, 2014), I included a range of measures to ensure the research process was culturally sensitive. This included spending significant time building rapport at the start of the interview to help the participant feel as comfortable and safe as possible; encouraging whānau to be present for the interview if the participant wished them to be; and providing the option to open and close the interview with karakia. I also briefly shared some of my background with the topic to help build rapport, normalise the experience of postnatal mental illness, and create a more equal relationship between parties (Audet & Everall, 2010). Despite significant effort to recruit Māori and Pasifika participants, no participants of these cultures responded to recruitment materials.

Recruitment

Participants were Auckland-based due to this region being the most impacted by lockdowns throughout the pandemic. Health care providers were recruited through Perinatal Anxiety and Depression Aotearoa (PADA) through sending an email (Appendix D) to those on the PADA support group leader list in the Auckland region. To recruit mothers, posters (Appendix E) were posted to the PADA Facebook group, an Auckland-based Facebook mothers' groups, and a COVID support group for pregnant and postpartum mothers. In order to be

inclusive to Māori, posters were sent to Tamariki Ora, Whānau Ora, Māori midwives, and other Māori contacts and social networks. Interested participants were invited to phone or email me, where I would screen for main inclusion criteria (Auckland based, self-identify as having experienced/experiencing postnatal depression and/or anxiety, given birth in 2020). For healthcare providers who wished to take part, it was confirmed that they were involved in supporting women within the postpartum period. I then sent through the Information for Participants form (Appendix A) and Consent Form (Appendix B). Participants were asked to read through this information, and contact me if they had any questions. If they were still keen to participate after reading this information, they were asked to complete the consent form and email back to me. Once the completed consent form was received, a convenient date and time was set up for the interview which took place via Zoom.

Participants

Participants included eight Auckland-based mothers who gave birth in 2020 and who self-identified as having experienced postnatal depression and/or anxiety. The women ranged in age from 29 to 40 years. Six of the women identified as Pakeha (New Zealand European), one as South African, and one as North American European. All women were married or in a de facto relationship. Four women were first time mothers, two were second-time mothers, and two third-time mothers. All women identified as female.

Mental health and maternity care participants included one independent registered midwife, one clinical psychologist, and one registered social worker who works as a postnatal support group leader. All three health care providers

were involved in caring for women who experience postnatal depression and/or anxiety both during and prior to the pandemic.

Interview Procedure

The interviews were conducted via Zoom due to my location being in a different city to the participants. Interviews were recorded via Zoom and then transcribed using automatic transcription software Otter.ai (<https://otter.ai/>). Ethics approval and participant consent was obtained for the use of Otter.ai. The automatic transcripts were read through while listening to the audio recording and corrections were made to the transcripts to ensure accuracy.

Interview Outline

Semi-structured interviews were used to gather information from participants. Semi-structured interviews have a basic structure of open ended questions based around the research topic, with flexibility for sub-themes to develop (Harvey-Jordan & Long, 2001). The sections of the interview used for this study are outlined below, with the full interview outline attached (Appendix F).

Part 1: The first section of the interview was focused on building rapport with the participant as well as confirming consent. To build rapport, I introduced myself, including a brief summary of my background and experience with the topic, as well as asking the participant general questions about themselves. I explained the aim of the study, and asked if the participant had any questions about the study. Once all questions were answered, the interview proceeded.

Part 2: The second section of the interview focused on asking how the pandemic had affected the participant and her whānau (family) in general, such as

any financial or work impact, changes to their connection to whānau and friends, and experience of parenting.

Part 3: The third section asked how supported the participant felt in her parenting role, including asking what forms of emotional, physical and information support she had, or would have liked to have had.

Part 4: The participant was then asked about her experience of postnatal mental illness, including whether she sought help, and if she did, what type of help she received.

Part 5: This section of the interview asked the participant what she felt has been helpful for her mental health since having her baby, including why she felt this was helpful.

Part 6: This section focused on what the participant felt was ineffective or unhelpful for her mental health, including why she felt this way.

Part 7: The participant was then asked what was missing that could have been helpful to her mental health, including whether she encountered any barriers to accessing support.

Part 8: The participant was asked what advice she would give to someone going through the same postnatal struggles she experienced. The purpose of this question was to end the interview in a positive way, shifting the focus of the participant's struggles to something that has given her experience and wisdom that she might be able to share with others.

Part 9: The final section of the interview asked participants their age, ethnicity and number of children (if this information had not already been disclosed during the interview).

Thematic Analysis

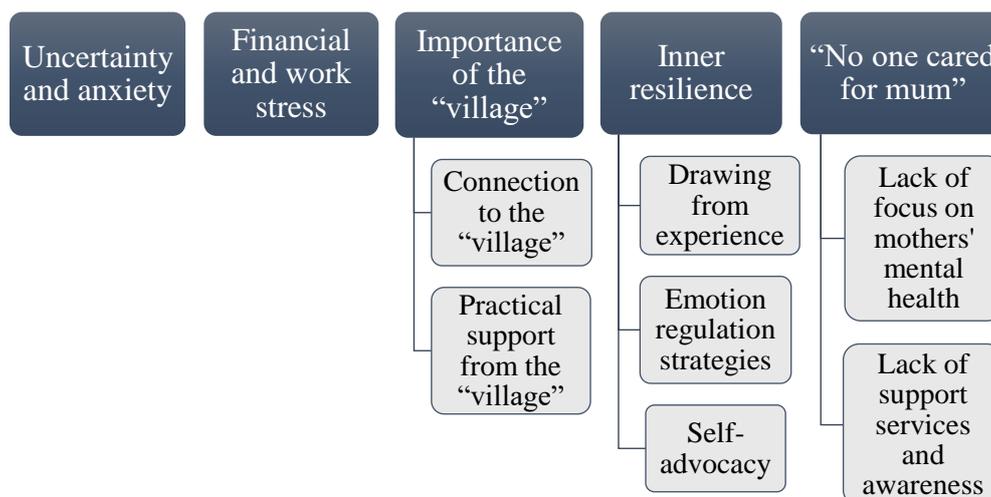
The interviews for this study were analysed using thematic analysis. Thematic analysis is a method of identifying patterns across a data set and presenting them as themes (Braun & Clarke, 2006). The process for this study was informed by Braun & Clark (2006), and used an inductive approach to thematic analysis, whereby the data itself determined the themes, rather than the researcher searching the data for preconceived themes or ideas. The first step of the analysis was to become familiar with the dataset through listening to each interview, and reading through each transcript multiple times. The interviews were then analysed systematically to identify pieces of information within each transcript that seemed interesting or important, with codes generated for each of those pieces of information. The codes were then grouped into themes, which identified broader patterns across the dataset (Braun & Clarke, 2006). Initial proposed themes were discussed with the supervisor, and revised based on this discussion. Examples of each revised theme were extracted and reviewed by the supervisor. The themes were then reviewed again, comparing them with the initial codes that were generated to check they were still relevant and grouped appropriately. The themes were then connected together into a thematic map and each theme was defined and named. A final analysis was completed through comparing again to the initial codes, and sharing the thematic map with the supervisor for additional feedback, before the results were reported.

Results

This chapter describes the key themes and subthemes that emerged from the interviews. After analysing the interviews via thematic analysis, five main themes were identified, as shown in Figure 1. Evidence for each theme and subtheme is provided using quotes from the women and health care providers. Pseudonyms are used for each of the women to protect privacy, and quotes edited to remove the names of any other family members referenced, or details that may identify the participant.

Figure 1

Themes and subthemes of interviews with mothers and health care providers



Uncertainty and anxiety

Uncertainty and anxiety were common experiences described throughout the interviews. The uncertainty of how COVID might be transmitted, how dangerous it was, as well as how it might affect the baby seemed to be a common concern amongst the women. This uncertainty increased anxiety for many of the women. Isabelle, a first-time mother, found her anxiety increased due to the uncertainty of how COVID was transmitted:

And I guess, just the complexity of COVID...the fear of this unknown virus. How contagious is it? Is it on the surfaces? You're getting a courier? Should you be wiping the courier 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.

This uncertainty and fear of the virus heightened the women's anxiety around health and hygiene practices, with some of the women expressing fears of their baby or themselves contracting COVID, and anxiety around the increased need to maintain a high level of hygiene. For Brooke, a second-time mother with a history of anxiety, the extra pressures around cleanliness heightened her anxiety and increased intrusive thoughts:

I think what was just what was probably greater during the, like the COVID-19, and the lock downs, and even afterwards, was like, I mean, my anxiety was certainly the worst, I think, because, you know, the washing and the cleaning and like, everyone was being super crazy about cleanliness and hand sanitizer, masks, and, and so I mean, someone with anxiety, that's going to be more anyway. So, the anxiety was just more across the board and like, like, the crazy, like, intrusive thoughts of like, my kids dying and like, so that was way worse, which I think was the pandemic.

For Eva, a first-time mother, lockdown provided a safe environment for her to be with her baby and whānau with limited fear of contracting COVID. The end of lockdown increased her anxiety due to this safe bubble being removed:

While we were in lockdown, it was this wonderful, secure bubble where I had everyone I needed. I didn't feel any need to go anywhere. It was just really lovely. But then the minute lockdown was over, it was stressful, because I was like, okay, how am I gonna go anywhere with my daughter? She's so tiny. And it's too dangerous. Because what if one of us picks up COVID? And I guess actually on that line, you know, if anyone went out to the shop, you know, they used to like be really careful about removing all their clothing and having a shower before having anything to do with (the baby). So that was stressful, making sure we didn't in any way bring COVID into our house.

Felicity also identified feeling anxious when out and about with her baby due to the increased risk of contracting COVID:

Yeah, I still get really anxious when we go out and people touch (baby) like I still. And of course, she's at an age now where she's like, sitting and she's, she engages in things and she'll reach her hand out and stuff. And the person that I am doesn't feel comfortable saying, please don't touch my child. I find it really awkward. Where like people will touch her. And then I'm like, grabbing her hands. And I'm wiping them all and I'm putting baby sanitiser you know, and yeah. So that anxiety around people coming too close. And people touching her and yeah.

The uncertainty of what lockdown was going to be like, and how long it was going to last was a common concern. For Anna, a first-time mother, going into lockdown for the first time was filled with uncertainty and panic:

They just left and mum, like was just like, I don't know when I'm gonna see you again. And it was just like insane. And I remember sitting at our dining table. And like, I was just like bawling my eyes out just going what's happening... because no one really knew, like, now we can look in hindsight. Like if we know that there's a lockdown coming, we kind of know what to expect. But this is like, no one knew, and everyone was panicking. And I just didn't know what to do. And I just cried for like, probably, what, two days.

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. It kind of felt like with that first lockdown we didn't even really have clear guidance on what we should be doing until, like about the end of week three? Which was really frustrating because, you know, the women are kind of asking what to expect. And I was like, well, I don't know, this is what they're saying at the moment and then it really was changing all the time.

As can be seen through the participant's stories, there was a lot of uncertainty related to the pandemic that appeared to increase their anxiety. Uncertainty around the transmission of the virus, the health implications, the practicalities of lockdowns, and health care provider access, fuelled the women's anxious thoughts, particularly related to health and hygiene.

Financial and Work Stress

A theme of stress relating to work and finances emerged, particularly for women and their whānau at the beginning of the pandemic, when businesses and individuals were navigating how to operate under lockdown. For Jessica, 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:

The sort of business that he (husband) has...the different levels mean that he could only start working properly under level two. So that was unbelievably stressful, so much so my mum thought that I was going to have a miscarriage.

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, yeah. Which I think negatively impacted the women as well, being left at home on their own.

Working from home whilst being pregnant and caring for other children was difficult for some women. For Danielle, 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. And so that was, that was quite a thing.

Brooke, who gave birth during Level 4 lockdown, noticed that the financial pressure impacted her husband's ability to enjoy the newborn stage:

Work was so slow. So, he (husband) was basically not working for 10 weeks from the start of lockdown...So it was great, great that he was at home. But then also, there's kind of the stress of well, we've got no money coming in apart from the wage subsidy, which I'm thankful for. But it was still less than like what he would have been making... So, it was nice to have him home for extra time. Because really, he would have gone back to work after probably two weeks. But at the same time, there's that we don't have any money, you know, coming in etc..... So, I could tell like he was really stressed about that and so he wasn't really enjoying "hey, we've got a new baby".

As can be seen, there was a common experience of financial and work-related stress, with many of the women and/or their partner fearing, or experiencing, a reduction in income. There was also additional stress related to juggling working from home while caring for children who were unable to attend school or day-care during lockdown. This put stress not only on the women, but also their partners, at a time where financial stability is important due to having just added a new member to their family.

Importance of the “village”

The stories from the women and health care 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. 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. The psychologist interviewed highlighted the importance of the “village” for mothers during lockdown:

And I think mums and humans in general, we're not meant to be isolated, like especially mums with newborn babies, or whether it's their first or second or third, they really need that village and that support network and obviously, they can't access that during lockdowns, you know. They don't have access to childcare or day-care or school. And for a lot of mums, they feel a bit stuck and trapped, you know, like they need that break away from their kids, you know, in order to recharge and refresh. But they weren't able to do that during lockdown.

This theme developed into two subthemes including connection to the ‘village’, and practical support from the ‘village’.

Connection to the “village”

Due to reduced face to face contact, particularly during lockdowns, many women reported feeling isolated from their “village”. For Anna, who gave birth during Level 4 lockdown, it was hard bringing her new baby home to an empty house, with no family or sense of celebration to greet her and her new family member:

When we got home from the hospital, it was like, the house was just bare, it was so like, empty. And, you know, like, there was no, no, I mean, I'm not being ungrateful, but like, you know, there's normally baking and

balloons and people are dropping off dinners and stuff like that. Our house was just white walls. And they got smaller every day.

For Isabelle, who also gave birth during Level 4 lockdown, parenting during the pandemic was isolating, so she chose to extend her bubble to her parents in order to survive those early newborn days:

Yeah, I mean, from like a parenting perspective, obviously, it was very isolating. (My husband's) family lives in (another city), so obviously, they couldn't help or see baby or be around. We're very lucky that my family are a five-minute drive away, and we just kind of went, they're in our bubble, because you know, survival mode. So mum and dad saw no one else and they just saw us during the lockdown when we got home with baby. So, we did have some support in that sense but I'd say isolating would probably be, from a family perspective.

There was also a lack of connection to health care providers, due to the lack of face-to-face appointments and contact. Eva found the lack of in-person visits from her midwife made it harder to feel connected to her:

I would have appreciated more visits, like in-person visits. For example, like my midwife eventually...well during the lockdown, you know, even when my daughter was one or two days old, she would sit in her car and phone me, and then only come in with a mask and gloves for the weighing part, or like physically looking at my daughter. And I really didn't like that. I mean, I know she had no choice in the matter. But it just felt very disconnected to me. And I just, I really wanted to speak to someone face to face.

Brooke felt that the lack of in-person visits from Plunket reduced Plunket's ability to identify if a mother was struggling:

Because also like Plunket was calling. And they're like, how are you going? Yeah, fine. But they weren't seeing me. So, I remember having a conversation with my mother-in-law going, how do they know I'm fine? Like they're supposed to be monitoring for postnatal depression. And they're asking me questions. But you know, I can sound really happy on the phone. They're not seeing me face to face. They have no idea. And even now, like my son's 13 months, I have seen them twice. No. I've seen them once. And I've had one phone call. Plunket basically was no support. Yeah, again. I didn't need them. But what if I had?

Anna 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. Anna had an infected c-section scar that was not picked up early enough due to the lack of face-to-face appointments with her midwife:

The recovery was really hard. Because my (c-section) scar got infected. And like the midwife that did my aftercare, she only had limited contact appointments. So, like she would call so I think she only saw us twice. And she 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.

Yeah, I just think having that face-to-face contact like wear PPE, wear a mask, you know, whatever, wash your hands. You don't necessarily have to be touching each other, but just especially with the breastfeeding help.

Yeah, maybe if places like Plunket had a room, you know, that was dedicated to, you know, if you've got any symptoms, yes you can still come in...I think not having that face-to-face midwife appointment, you know, just to check on the baby and check on mum as well, you know, especially if you've had a caesarean or if you've had stitches or things like that. Yeah, I think that still should have been face to face.

The importance of human connection was reflected in Brooke's story of how comforted she was by a midwife who broke some of the rules to give her a hug:

I had a really awesome midwife come...she was like, look, I know we're not supposed to touch but I am going to give you a hug. You know, like, just things like that. She was aware of where she'd been, and you know, but she still, because everyone was like, I'm not gonna get too close to you, I'm not going to touch you. And you're hormonal and emotional, and you just want a bit of comfort. And so, she was really good. Like, she just acted completely normal. and was like, how are you doing? And you know, like, I was like straight away like I was just very comfortable. I was able to talk to her.

The social worker, who provides group support for women with postnatal distress, noticed the women craved face to face contact, hence made it a priority to return to in-person groups as soon as possible after lockdowns:

We recognised the importance of the (in-person) groups because when we came out of the first lockdown, we kind of stayed on zoom for a bit longer because it's a little easier and we just were figuring it out. But the women were craving to be in-person.... they're craving that face-to-face contact. And so, all the other ones (lockdowns)... as soon as we can we're like right let's just make it work...we've learned that actually, normality and in-person stuff is really important for them.

Practical support from the “village”

In addition to the need for connection to the village, there was a need for practical help with the baby and older children, particularly during lockdowns. The psychologist noticed how important this need for practical support is for mothers:

Well, if I talk about lock downs, I think the main thing is, you know, the fact that mums are expected to kind of be everything for everybody, especially moms who have school aged children, who are expected to teach their kids, you know, doing online learning when they don't have any experience in teaching at all, while at the same time balancing, trying to take care of their baby and toddler and cooking and everything, you know, it becomes this huge burden, right....So I think there's just been a lot of kind of wider repercussion on everyone's mental health wellbeing. And mums are kind of hit the hardest, like the way that I see it anyway...Yeah. 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. You know, like, the reason why it's hard is because this is so far removed from how we're naturally wired,

right, like naturally wired for connection for that. Like, again, like I said, the village and it's not there.

For Caitlin, a third-time mother, the lack of break from her children during lockdown, plus the added stress of having to keep them away from her husband who was trying to work from home, added significant stress:

So, I had my third my third baby at the end of the level four lockdown. So, we had 10 days left of the level four lockdown when she was born. So being in that late stage of pregnancy, right through as well, was hard because my husband obviously had to work from home and he worked the entire time. So, it created more stress and pressure of not only having to parent with no break with two pre-schoolers, you're also running defence the whole time because they knew dad was in the house. And so, the whole time you would just like, and he was having to make videos and phone calls, like zoom calls constantly. And so, you had to always keep them out of the bedroom. And so that just added a super stressful layer of extra parenting when it was already difficult.

Danielle experienced a similar situation, however was able to extend her bubble to her sister to gain extra support, which helped her cope during lockdown:

Then yeah, like my husband, the lockdowns this year my husband trying to work from home and trying to deal with the two kids, keep them quiet. It was so hard...So I ended up extending our bubble to my sister. So that and I just would go over there each day so that she could help me with the kids because it was just otherwise, I just don't know, how I would have dealt?

Felicity, a first-time mother, found the lack of parental leave available to fathers extremely stressful, leaving her alone with a one-week-old baby with no support:

So, my husband was entitled to two weeks of unpaid parental leave. So, it's so shit...it's really like, I actually am appalled. I think it's disgusting. That was a huge anxiety. I will not forget we were sitting watching TV on the Sunday night...before he went back to work, we were sitting on the couch and (baby) was asleep and we're watching TV and I was just.... he turned to look at me to say something and I was just sobbing and he was like, what's wrong? And I was like, I don't want you to go to work tomorrow, I don't want to be by myself. I was like please don't leave me. He was like, I have to go back to work...Yeah, two weeks is not long. Especially when that first week was spent in the hospital. So, a week at home when you're trying to learn what to do with a newborn baby. And then to literally be on your own from, you know, he leaves work at like 6:30. And he gets home at five. That's a long time.

The midwife echoed these sentiments, noticing how difficult it is for women who don't have that practical support:

I would say yes, like it has been incredibly difficult for women, and not to take away from anyone who does have the support, you know, does have people around like family around and things but what I noticed was particularly with women who their family are all overseas. So not having.... not being able to have their, you know, their mum come and stay. 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, yeah. Which I think negatively impacted the woman as well being left at home on their own. Without their, you know, the mum who was planning to come from overseas or without her partner just with that financial pressure. So, I think that the added feeling of isolation that wouldn't have been, you know, definitely wasn't as prevalent pre-pandemic.

The importance of practical support from whānau was highlighted by the difference this support made to women who were able to access it. For Brooke, a second-time mum who gave birth during Level 4 lockdown, living with her in-laws made a huge difference to stress levels when it came to help with childcare:

This is where I'm really lucky because I actually, we live with my in-laws. So, I had, you know, his parents were here basically to help me. And so, there wasn't like, I know a lot of women were freaking out, like, what am I supposed to do with my other child? And if my husband comes into the hospital with me, like, technically, we can't get babysitters and stuff like that. And it was all that thinking, but I was lucky, I didn't have to worry about that. Because I knew that grandma and granddad were going to be home.

For Anna, who had her first baby during Level 4 lockdown, help from her mum was an important source of support:

I relied on mum when she could eventually come over. I relied on her a lot. My mother-in-law works. So, like she can help, but it's not as readily

available. So, my mum was probably my biggest supporter, when I could see her.

Eva, a first-time mother who lives with her husband and parents, has felt very supported by her whānau and community:

So um, he's (husband) been amazing. Like, he's completely, like, involved with our daughter. So, he's a massive support to me. And he understands my anxiety and you know, how to help me. And then, of course, my parents, they're amazing. My husband and I constantly say, we don't know what we would do without them. And then we also belong to church, and we're very involved with that. And so, we have lots of friends and you know, support networks within that.

Hence, the women's stories emphasized how important connection to, and support from, their 'village' was. During lockdown, where face-to-face contact with whānau, friends and healthcare providers was limited, there was a sense of isolation and difficulty in accessing help. There was also a common experience of a lack of practical support with caring for the baby and older children, due to a lack of in-person contact with their wider whānau. The importance of this practical support was highlighted by the difference it made to the women who were able to access it, who felt it increased their ability to cope.

Inner resilience

There was a common pattern of the women drawing on their own inner resilience to cope. This theme developed into three subthemes, including drawing from experience, utilising emotion regulation strategies, and self-advocacy.

Drawing from experience

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. Like I would have gone probably into full panic mode. You know, having panic attacks and just yeah, so I am really thankful that, one, it was my second baby. And that, two, I knew, like, I knew what I was doing.

(Brooke, second-time mother)

But actually, having him wasn't so bad. So, after a C section you...go into the recovery area for a little bit. And they encourage you to breastfeed and stuff. And my partner wasn't allowed there. I was okay with that. Because I knew what I was doing. And I was in a good state. If it had been my middle (child), I wouldn't have been okay with that. Because I had these drugs that had a bad effect on me. And I kept on falling asleep and I needed my partner to help me hold him. So not having a partner there. I think for other mums would have been awful. For me, it was okay. (Jessica, third-time mother)

Similarly, women who had experienced mental illness prior to the postnatal period had insight into what helped improve their mental health, that made them push more to participate in those healthy coping strategies.

I think maybe because I've had anxiety before...So I know that being around people is helpful for me. So, I kind of pushed myself to do that. I suppose if you ended up with anxiety after having a baby, you may not sort of recognise some of the things that can help. And it would just be... it would have just been easy for me as well to just stay at home. (Felicity)

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. So, because with (our middle child), I let it go on for way too long before I did anything about it. And so, we had some of that in place, so no, I wouldn't normally have help. But like I would have red flags myself when I start feeling this way, I have to call someone and not feel bad about it. (Caitlin)

Emotion regulation strategies

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:

So, I've been trying to do things like, go take them for a walk. We have a local bush area near our house. So, I'll take the kids and the dog and just go up there and wander through the bush and I just find that getting out of the house and it's a safe area and stuff where we can.... I'm not having to say don't touch that, stop doing that. You know, I can just let them go. I can have some fresh air and some deep breaths and some space and that helps me. So that works really well for me. (Danielle)

We do walk to my oldest boy's kindy, which is not far. But that has really helped because it's fresh air and, um, so there's a couple of things that I have done to help is the walking thing, which is helpful...And when they're there (at day-care), I do nothing. When the baby's asleep, I just have something to eat and I sit down, and I do nothing, as opposed to tidying up or whatever. (Felicity)

For Anna, a first-time mother, 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.

Isabelle, a first-time mother, also mentioned trying to let go some of the control around cleanliness:

But I guess when it comes to the pandemic-ness of the situation, I mean, I had quite a bit of anxiety around...I know (my husband) did in particular, around where the virus was, you know, if we did delivery, is it on the box? Is it on the groceries as well? Where is it? Yeah, and I guess it's one of

those things where it's almost like, okay, you know, do everything you possibly can, you know, wash your hands, you know, do everything within your power. And then you kind of have to let it go a little bit. You know, I mean, like, I mean, you can only control so much. Doing, you know, everything within your control, being you know, as clean as you can wiping down handles everything like that. And then beyond that, you just, I just think it's wasted energy being anxious on it. You can't control it.

Jessica, a third time mother, found talking to others about her experiences helped, including taking part in the interview:

So, when I first spoke to Plunket, I actually felt so much better...I guess, maybe that's one thing that has helped is getting it off my chest.... Just getting something off your chest is always helpful.

It's (the interview) actually been really therapeutic for me as well, so thank you.

The psychologist and midwife both mentioned that teaching emotion regulation strategies such as mindfulness and normalising emotions, helped the women they were supporting:

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)

And I think normalising that in terms of why they're finding it so hard in terms of the context of the pandemic, is probably the most helpful, so they don't feel like it's them, like, you know, because a lot of moms are like, well, you know, my baby is healthy, and I should be grateful, I should be happy, but I'm not. (Psychologist)

Self-advocacy

Many of the women mentioned the need to advocate for yourself, 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 with health care providers.

Yeah. And have an advocate. I think, like, yeah. Whether it's yourself or your partner, or, or a family member, like just have someone who can really back you up. And, you know, like, if you know, something's not right, like, if you know, if you know that the gunk in your baby's eyes is like not right, or something like just really stand your ground and say, no, I really want this checked. Yeah. Yeah. You know, and if someone has to put on a full thing of PPE, then yeah, that's what needs to be done Just making sure that you really, really stamp your authority. If you think that you need something that you're not getting. (Anna)

Brooke found that she needed to advocate and push for her needs at hospital after the birth of her baby:

And I'd also encourage, like, if, if you're uncertain, like, reach out for help, and don't be afraid, like if you need to push that buzzer at the hospital. And I really like when I said that I didn't have my phone. I must have

asked for it six or seven times. And I kept thinking, like, I felt bad for bugging the nurses. And then I'd be like, no, well no, I deserve to have my things. You know, like, my baby is naked as well, just wrapped in a blanket. And like, I'd like to maybe put a singlet on him or something. Things like that. Just yeah...But I would say that would be my advice. Like, don't, don't be afraid to ask for what you need. Because, yeah. Like, everyone's in this together, but at the same time, you're going through a really huge life change. And so, you need to be supported more.

Lacking a birth partner and support person at appointments was also raised as a common concern. Anna felt the lack of support people allowed at appointments and during labour was unacceptable:

I just think denying someone a support person is just so wrong. And not just for support, but also like, you know, like, if you're at your doctor's surgery, and a lot of signs are on the wall saying, you know, like, you're entitled to a chaperone you know... Yeah. I just find it bizarre how they can deny people that. So, I think that's one thing, if we ever, God forbid, ended up in level four again. I think that's one thing they're going to have to seriously, definitely look at. Because I'd say there's a huge group of mums out there who are really struggling. Going through labour alone.

Asking partners to leave two hours after the birth was described as traumatic for one woman and her husband, who are both now seeing a clinical psychologist to work through the trauma this experience caused:

I don't think he (husband) realised how traumatised he was. And I didn't realise how traumatised he was...But the whole, you know, getting kicked

out of the hospital and not being allowed in appointments and all that its, you know, there's no control with anything.

As can be seen, the women drew on a range of sources of inner resilience to help them through the postnatal period. For those who had experienced motherhood and/or mental illness in the past, they were able to draw on this experience to increase their resilience. For women who were second- and third-time mothers, they expressed feeling more confident with the birth and caring for a newborn baby. For women who had experienced prior mental health struggles, they were able to put in place strategies to help them cope, such as pushing themselves to socialise, and putting a mental health plan in place prior to baby arriving. The women also engaged in a range of healthy emotion regulation strategies such as exercising, being in nature, talking with others, journaling, acceptance and mindfulness. Some of these strategies were also utilised by the psychologist and midwife to help their clients cope. Self-advocacy was also required during this period, with many of the women also mentioned needing to ask for help or push for their needs with health care providers.

“No one cared for mum”

A final theme emerged from the women’s stories about a lack of care towards mothers’ health during the postnatal period, which developed into two subthemes. The first was related to the lack of focus on mothers’ mental health during postnatal appointments, and the second related to the 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. Occasionally you have good, really good supportive partners, to be fair, but it's probably the exception rather than the rule, unfortunately, that ultimately, most of that parenting is left to you know, it's left to mum and particularly if dad was working. But yeah, just, I think no one cared for mum. (Social Worker)

Lack of focus on mothers' mental health

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

Plunket basically was no support... The appointments that we've had have literally been like, how are you going? Awesome. And she kind of has obviously a checklist and she kind of goes, how are you going with solids, how are you going with the feeding? Cool, cool. 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.... You know, nothing's really been presented to us. Like we can see you're struggling, why don't you engage with this group? Or why don't you do that? We haven't really had any of that. (Felicity)

I kept telling people, like, I'm not okay, right now. And I feel in a really, like vulnerable place. But it didn't feel as though... I kind of expected when I said that to people, that they would really respond and like, kind of get involved and help me, but I didn't feel like I really got that. And I just kind of had to get through it by myself. (Eva)

There appeared to be a lack of connection between mothers and their Plunket nurse, making it difficult for the women to be open and honest about their struggles.

Because the (Plunket) appointments are so few and far between, like, I don't really feel like I have a huge connection with her (Plunket 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...If that's your support system (Plunket), the person who's supposed to pick up that that you're struggling or pick up that like something's not right, so many people must fall through the net. (Felicity)

Lack of support services and awareness

If mothers did reach out for help, there appeared to be a lack of action, follow up, and support services for health care providers to connect them with. According to the midwife interviewed, the criteria for referral to Maternal Mental Health within the Auckland District Health Board is a score of 17 on the Edinburgh Postnatal Depression Scale (much higher than the score of 13 that indicates a strong likelihood of depression). Mothers with mild to moderate postnatal distress are referred to their GP where they are often offered medication. Counselling, if offered, is available at a significant cost to the woman which is often unattainable for those down to one income during the postnatal period.

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...And I said to her, like, I don't really want to, I don't want that to be the solution (medication).... 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. And I said, you know, is there anything I can access, like, some free counselling or anything like that? And she basically was like, no, really there's not. (Felicity)

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 Plunket 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 Plunket 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 Plunket line. (Midwife)

It was also suggested that there is a need for more emphasis on mental health training in 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 and I mean, it's a particular interest of, of mine... Just from personal experience with, like, my own mental health struggles. Yeah. So, I like I. Yeah, sort of, I guess try to I don't know, be more, be more aware of that than perhaps other people are. But still like, I feel like sometimes it is really difficult to, to because I think

it's that sort of, that fear around...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)

Hence, the women expressed that there was an overall lack of focus on their mental health and wellbeing at postnatal health care appointments. This appeared to be due to a lack of awareness and training amongst health care providers, as well as a lack of specific services they could refer the women through to. It was suggested that there needs to be a dedicated postnatal support phone line for women who are struggling, as well as increased education amongst midwives on how to identify and support women experiencing mental health struggles. Overall, this lack of care for the mother herself made it harder for her to reach out for help, and if she was able to, there did not seem to be enough support available.

Summary of Themes

Overall, the themes that emerged from the stories of the women and health care providers reflected a period of uncertainty, anxiety and increased financial and work-related stress. There was an overriding sense 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. The women appeared to rely on their own inner resilience to help them cope, using emotion regulation strategies such as exercise and self-care, drawing upon their past experiences, and self-advocating when they felt their needs were not being met. A lack of focus on mothers’ mental health during the postnatal period from health care providers was evident,

as well as a lack of support services to refer the women to, should they reach out for help.

Discussion

The results of this study highlight the increased anxiety and stress the pandemic has caused the participants, while at the same time significantly reducing their access to social support. The participants' stories suggest there is a need for greater focus on postnatal mental health, as well as improved accessibility to support services for mothers who are struggling. This section will discuss these findings in relation to the current literature, highlighting the implications, limitations, and recommendations for future research.

Uncertainty and anxiety

Uncertainty and anxiety were a common experience for the women interviewed for this study. It appeared that much of their anxiety was linked to the uncertainty of the pandemic, such as the unknown risk the virus posed to their baby's health, as well as the social and financial implications of social distancing measures. Research has found a link between the intolerance of uncertainty (IU) and anxiety, with higher IU associated with higher anxiety (Bakioğlu et al., 2020; Carleton et al., 2012; McEvoy & Mahoney, 2012). Intolerance of uncertainty occurs when an individual possesses negative beliefs about uncertainty, and their ability to cope in the face of uncertainty (Carleton et al., 2012). IU has been linked to depression and a range of anxiety disorders including generalized anxiety disorder, panic disorder, obsessive compulsive disorder and social phobia (Carleton et al., 2012; McEvoy & Mahoney, 2012), and in a recent study was shown to be positively correlated to fear of COVID-19 (Bakioğlu et al., 2020). Experiencing stressors that are uncontrollable, such as pandemics and natural

disasters, have been found to increase maternal mental health struggles (Perzow et al., 2021). It is therefore understandable that the uncertainty the women in this study experienced heightened their anxiety. However, perhaps this was due to the women being more susceptible to IU. While this was not a clinical sample, the women in this study did self-report experiencing postpartum depression and/or anxiety. Since mood and anxiety struggles have been found to be associated with higher levels of IU (Carleton et al., 2012; McEvoy & Mahoney, 2012), this may mean they had greater intolerance of uncertainty. This may explain why the connection between uncertainty and anxiety was particularly salient for this sample of women.

Many of the women interviewed spoke of anxiety related to their own and their babies' health. Health anxiety is when an individual is preoccupied with having or catching an illness, which can cause distress and inhibit daily functioning (Sunderland et al., 2013). This can include misinterpreting bodily sensations, such as a cough or fever, as symptoms of a serious illness (Asmundson & Taylor, 2020). Health anxiety falls on a continuum, with most people experiencing a certain amount of health anxiety, particularly within the context of a health pandemic. In fact, a certain amount of health anxiety can be beneficial as it allows people to take part in health promoting behaviours, such as washing their hands regularly and wearing a mask (Sunderland et al., 2013). However, when health anxiety is excessive it can result in maladaptive behaviours, such as panic buying supplies and seeking medical reassurance excessively, reducing the availability of these supplies and services to those who may be more vulnerable (Sunderland et al., 2013). Health anxiety can also result in symptoms of agoraphobia, such as having difficulty leaving the safety of home (Sunderland et

al., 2013). This was experienced by some of the women in this study, who spoke of anxiety when leaving their home due to fears of contracting the virus from the community. Health anxiety is becoming more common since the pandemic began (Tull et al., 2020), which may be due to the link between health and anxiety and media coverage of diseases, which has been common during the pandemic (Sunderland et al., 2013). With such a focus on physical health during the pandemic, it is understandable that health anxiety was a common experience for the women in this study. Mitigating health anxiety in vulnerable mothers is important, due to postnatal maternal anxiety increasing the risk of child development of anxiety (Glasheen et al., 2010). Perhaps midwives or Plunket nurses could be trained to teach emotion regulation strategies alongside preventative health measures, to help mothers let go of anxiety once they have done what is within their control to minimise the risk of disease transmission.

Financial and work stress

Many of the participants in this study reported stress related to work and finances. Research has found that the COVID-19 pandemic has been associated with greater financial worry (Paxson et al., 2012; Perzow et al., 2021; Tull et al., 2020). Public health measures required to contain the virus, such as quarantine and social distancing, have led to businesses struggling, historic lows in the stock market, and fears of a global recession (Reger et al., 2020). Due to childcare and schools being closed during lockdowns, parents have had to take time off work or reduce their hours to care for their children (Brooks et al., 2020). For the women in the current study, working from home while being pregnant and/or caring for children was difficult. Financial stress and job insecurity resulted in some fathers returning to work earlier than planned, leaving mothers home alone earlier than

expected. Stress related to finances not only put pressure on the women, but also their partners, with one woman feeling her partner was unable to enjoy time with his newborn baby due to stress around work and income.

Financial stress has been found to be associated with a range of negative mental health outcomes, including depression (Thayer & Gildner, 2020), anxiety (Brooks et al., 2020), and increased suicide rates (Reger et al., 2020). Perzow et al. (2021) completed a longitudinal study of pregnant and postpartum women's mental health, in an ethnically diverse Colorado sample, prior to and during the COVID-19 pandemic. They looked at the association between COVID-specific adversity (such as job loss), and found that depression and anxiety symptoms were higher in women who reported higher levels of adversity, compared to women who reported lower levels of adversity. Similarly, Cameron et al. (2020) surveyed mothers in the postnatal period during April 2020, residing primarily in Canada and the USA, finding that over one third of mothers had financial strain due to COVID-19. Financial strain and employment loss were found to be positively associated with depression scores on the Edinburgh Postnatal Depression Scale, highlighting the link between financial strain and postnatal depression within the current pandemic (Cameron et al., 2020). For many of the women in the current study, there was a risk to income, or a reduction in income, particularly during the first Level 4 lockdown in 2020, which may have fed into their experience of postnatal depression and anxiety.

The impact of financial stress on mental health has also been found in previous disasters, such as Hurricane Katrina in the USA. Paxson et al. (2012) completed a longitudinal study of the mental health of low-income mothers before, during and after Hurricane Katrina. They found that psychological

distress was lower for those with higher income, suggesting that income is a protective factor against psychological distress during a disaster. Similarly, Stojanov et al. (2021) compared postpartum women to non-postpartum women, and found that dissatisfaction with income was higher in postpartum women, and that those who experienced dissatisfaction with their income had higher scores on the EPDS (Stojanov et al., 2021). It is therefore understandable that the financial stress associated with the pandemic would be heightened for the women and their whānau in this study. This highlights the added vulnerability of postpartum women during the current pandemic, due to the increased risk that financial stress poses to mental health struggles.

Importance of the “village”

The stories from the women and health care 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. 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 practical support with the baby.

As previously mentioned, there has been a well-established link between social support and postnatal mental health (Boury et al., 2004; Doyle & Klein, 2020; Harrison et al., 2020; Harrison et al., 2021; Howell et al., 2006; Leahy-Warren et al., 2011; Lebel et al., 2020; Racine et al., 2020; Terada et al., 2021; Thoits, 2011). Social support is an important protective factor against depression and anxiety symptoms, with 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). Due to reduced face to face contact, particularly

during lockdowns, many women in this study reported feeling isolated from their support network. It has been found that being physically distanced from others can lead to feelings of isolation, which can impact mental health (Brooks et al., 2020). Brooks et al. (2020) completed a review of studies that investigated the impact of quarantine on mental health during previous pandemics. They found that isolation during quarantine was associated with psychological distress (Brooks et al., 2020). In the 2003 SARS pandemic, elevated depression was found in participants who were quarantined, and the longer this quarantine lasted, the higher the prevalence of depressive symptoms (Hawryluck et al., 2004). Within the current pandemic, 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.

While virtual connection to social networks has been found to be psychologically beneficial during times of isolation (Brooks et al., 2020), for this sample of women, it was clear that face to face contact was the preferred method of connection. This was particularly the case with health care provider appointments, which were often delivered via phone, particularly during Level 3 and 4 lockdowns. Virtual support has had mixed reviews from mothers in previous studies; with some considering it convenient, particularly when it can be hard to leave the house with a new baby, and others finding it harder to build relationships compared to face-to-face contact (Chen et al., 2021; Farewell et al., 2020). The women from the current study may not have had positive experiences with telehealth due to most appointments being via phone, rather than video call. However, the social worker that was interviewed utilised video calls for her postnatal support groups during lockdown, yet found this did not resonate with the

women, who craved face to face contact. This may have been due to the difficulty of communicating on group video calls, or perhaps due to attendance at the support group normally including free childcare, allowing the mother to have time out from her baby allowing her to focus on the session more easily.

The lack of face-to-face appointments during lockdown was raised as an issue for some women in this study. This aligns with a recent study by Verdinand et al. (2021) who found that orthopaedic patients, although finding telehealth to be a very convenient form of health care, were concerned about the lack of physical contact during the appointment. It has been suggested that a combination of in-person and telehealth appointments would provide the most effective treatment, particularly when a physical examination is required (Verdinand et al., 2021).

The importance of face-to-face human connection was reflected in one woman's story of how comforted she was by a hug from her midwife. The importance of close physical contact with others was highlighted in a recent qualitative study conducted in the USA (Marroquín et al., 2020). Participants took part in a survey in February 2020, prior to social distancing and stay-at-home orders were put in place (Marroquín et al., 2020). The survey measured a range of mental health outcomes including depression, anxiety and intrusive thoughts. The researchers then surveyed the same participants in March 2020 after social distancing measures had begun to be implemented. Practicing physical distancing measures (such as retaining 1 metre distance from others, and avoiding hugging someone from outside their household) was associated with an increase in depression, generalised anxiety and intrusive thoughts (Marroquín et al., 2020). It should be noted that this study was correlational, hence increased symptoms of anxiety or depression may have resulted in greater adherence to physical

distancing measures. However, it could provide an explanation as to why a hug from a midwife could have been a positive experience for the woman in this study, as being physically distanced from others can have negative impacts on mental health (Marroquín et al., 2020).

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). In a study by Stojanov et al. (2021) that investigated the postpartum mental health of Serbian women during the pandemic, higher scores on the EPDS were found in women with an absence of family support. When women did receive family support, they experienced fewer depressive symptoms (Stojanov et al., 2021). It was found that only 1.9% of participants had family support, which they suggested was due to social distancing measures reducing the ability for families to support each other, as well as increased instability and dysfunction within family systems due to the stress of the pandemic (Stojanov et al., 2021). It was also found that postpartum women experienced more anxiety and depressive symptoms, as well as expressed a greater need for social support when compared to non-postpartum women. This highlights that postpartum women have a need for social support, yet are not getting this support due to the social isolation of the pandemic context (Stojanov et al., 2021). This is similar to the women in this study, most of whom did not receive much wider whānau support, yet expressed the need for this type of support.

The value of practical support was highlighted by the difference this support made to the women in this study who were able to access it. Some women were able to extend their bubble to their wider whānau, such as grandparents and siblings. For the women who did receive wider whānau support, they expressed how important this support was to their ability to cope. The involvement of grandparents in childcare has been found to reduce the risk of postpartum depression and parenting stress (Alhomaizi et al., 2021). It allows the mother to have help with, and a break from her children, increasing her ability to take part in mental health promoting activities such as exercise and self-care (Alhomaizi et al., 2021).

There was also mention of the inadequacy of the New Zealand parental leave provisions available to fathers. Two weeks of unpaid leave does not provide women with the support needed to transition to early motherhood, particularly during a pandemic where access to other sources of support, such as the wider whānau, are limited. New Zealand's current parental leave provisions include 26 weeks of leave for one parent, paid at minimum wage, and two weeks of unpaid leave for the other parent (Employment New Zealand, 2020). An additional 26 weeks of unpaid leave may be taken by the primary caregiver. In other countries, such as Norway and Finland, both parents are provided with significant amounts of paid leave, and there is a focus on fathers being involved in the care of the children (Duvander & Ruspini, 2021). Norwegian fathers are entitled to 3.5 months of paid leave (paid at between 80%-100% of their income), which can be taken at the same time as the mother (Duvander & Ruspini, 2021). Finnish fathers are entitled to 164 days of paid leave, the same as Finnish mothers, meaning children can be home with one of their parents up until 14 months of age (Finnish

Government, 2020). The mother and father can also take this parental leave at the same time for up to 18 working days (Info Finland, 2020).

Unfortunately, the pandemic has led to reduced social support for new mothers, which is having an impact on their postnatal mental health (Stojanov et al., 2021; Terada et al., 2021). For the mothers in this study, face-to-face connection and practical support from their wider whānau was lacking, which led to feelings of isolation. This aligns with current research, that has shown increased feelings of isolation within the pandemic context (Brooks et al., 2020). The women in this study preferred in-person appointments rather than phone-only appointments with healthcare providers, suggesting that safe face-to-face contact should be prioritised for postpartum women, to prevent further isolation at a time when women are particularly vulnerable to mental health struggles.

Inner resilience

It was inspiring to see a common theme emerge of the women accessing their own inner resilience to help them cope with the postnatal period. It has been found that the vast majority of people are resilient in the face of major life stress, and that longitudinal studies of the pandemic and its mental health impact reflect this (Chen & Bonanno, 2020). A longitudinal study was conducted by Daly and Robinson (2021) who looked at psychological distress at the onset of the pandemic in March-April 2020, compared with June 2020 within a large sample of the general population within the USA. They found that distress increased significantly from March to April 2020, then returned to baseline by June 2020. This was regardless of sociodemographic variables and whether participants had a pre-existing mental health condition, suggesting that humans tend to be resilient in

the face of adversity. The women in the current study utilised a range of strategies to support their coping which are discussed below.

Drawing from experience

Drawing on past parenting and mental health experience helped some of the women implement strategies that supported their coping. Second- and third-time mothers (multipara mothers) mentioned how they were able to draw on their experience with parenting to help them feel less anxious during their birth, hospital stay and the postpartum period. This aligns with previous research, that has found multipara mothers have higher self-confidence (Ha & Kim, 2013; Mantha, 2005) and higher self-efficacy (Dol et al., 2021) in their role as a mother than first-time (primipara) mothers. Both primipara and multipara mothers experience an increase in self-confidence over time; however, multipara mothers rate their self-confidence higher at each time point (1-2 days, and 4-6 weeks postpartum) when compared with primipara mothers (Thompson, 1981). Two multipara women from the current study mentioned how being an experienced mother increased their ability to cope.

Similarly, women who had experienced mental illness prior to the postnatal period were able to draw on their past experience to help them cope. They had insight into what had previously worked for them, which appeared to provide them with motivation to engage in healthy coping strategies. It has been found that those who have experienced mental health struggles have higher levels of mental health literacy, which is positively correlated with help-seeking behaviour (Gorczyński et al., 2017) and improved mental wellbeing (Lam, 2014). Mental health literacy is the knowledge one has of mental illness and its treatment options, including how to identify the triggers and signs within themselves and

others, and where to go for help (Jorm, 2012). Help-seeking behaviour involves reaching out for help from others such as whānau, peers, friends, medical professionals or religious leaders (Gorczyński et al., 2017). The women in this study who had previously experienced mental health struggles appeared to possess mental health literacy, as they were able to identify their triggers, and follow through with coping strategies that had been successful for them in the past. One woman wrote down a plan prior to the birth that outlined her ‘red flags’ and what she would do if she saw them arise. Another woman pushed herself to socialise, even though she didn’t always feel like it, as she was aware that reducing her social interaction had a negative impact on her mental health. These helpful behaviours came about due to the previous experience with mental illness these women were able to draw upon.

Emotion regulation strategies

The women also engaged in a range of healthy emotion regulation strategies, such as exercising, being in nature, talking with others, journaling, acceptance and mindfulness. They identified that engaging in these types of strategies helped improve their ability to cope. This aligns with research into emotion regulation that has found engaging in healthy emotion regulation strategies is associated with improved psychological health (Haga et al., 2012). Emotion regulation is the way an individual influences their emotions, including what types of emotion they experience, how long they experience them for, and how they express them (Kobylińska & Kusev, 2019). Difficulties with emotion regulation have been found to contribute to the development and persistence of psychopathologies such as depression and anxiety (Besharat & Farahman, 2017), including during the postnatal period (Caçador & Moreira, 2021). Caçador and

Moreira (2021) looked at the relationship between difficulties with emotion regulation, and postnatal depression and anxiety symptomology. They found that women who were experiencing clinical postnatal depression and/or anxiety symptoms had greater difficulty with emotion regulation than a non-clinical sample of women (Caçador & Moreira, 2021). The pandemic context has increased time for self-care activities such as sleep, physical activity, healthy eating, and spending time outdoors (Farewell et al., 2020). It appears that many of the women have utilised these chances to engage in healthy self-care and emotion regulation strategies, which may have increased their ability to cope with the challenges of having a baby during the pandemic.

Self-advocacy

Many of the women mentioned the need for self-advocacy with medical professionals. Trusting your gut and pushing for your needs was required, as issues could be overlooked due to phone-only appointments, as well as many healthcare providers being extremely busy during lockdowns. Self-advocacy was also required in hospital after baby was born, where women and their babies were often isolated in a room with no whānau for support.

It has been found that patients who self-advocate tend to have improved health outcomes and increased patient-centred care (Hagan et al., 2017). The right to make an informed choice forms a part of the New Zealand Code of Health and Disability Services Consumers' Rights, along with the right to effective communication, which involves both parties (health care provider and client) to communicate openly and honestly (Health and Disability Commissioner, 2021). The desire for people to be heard, and involved in, their health care treatment has been well documented (Megnin-Viggars et al., 2015). 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, or fears of ruining the patient-provider relationship (Wiltshire et al., 2006). Similarly, postnatal mental illness can affect confidence, which may make it more difficult for postnatal women to express their needs and opinions (Bilszta et al., 2010).

Patients most likely to self-advocate tend to be naturally assertive, younger, with higher income and education (Wiltshire et al., 2006). This suggests there may be cultural differences that reduce a woman's ability to self-advocate, such as language barriers, and a lack of access to, and understanding of, medication information (Megnin-Viggars et al., 2015; Wiltshire et al., 2006). Wiltshire et al. (2006) conducted a study in the US on middle aged women, finding that black women were less likely than white women to seek and discuss health information with their provider, and that even when black women had access to health information, they were less likely to self-advocate than white women. Therefore, the increased need to self-advocate during the pandemic may not be a skill set that is equally accessible to all birthing and postpartum women.

This highlights the importance of having a support person present for women during their birth and health care appointments. It has been found that whānau help to express a woman's needs and experiences when the woman may not be able to do this herself (Banerjee et al., 2021). Lacking a birth partner and support person at appointments was raised as a concern by the women in this study, with many women expressing frustration that they were denied a support person for maternity appointments, the full duration of their labour, and their postnatal stay at the hospital. Unfortunately, due to COVID restrictions, women have often had to attend postpartum medical appointments, and at times much of

their labour, alone. Under Alert Level 4, partners have been restricted from being with their labouring partner until she is close to giving birth, and then asked to leave two hours post birth. One of the rights outlined in the New Zealand Code of Health and Disability Services Consumers' Rights is that all health care users have a right to one (or more) support person/s of their choosing (Health and Disability Commissioner, 2021). Similarly, the World Health Organisation and the Respectful Maternity Care Charter both stipulate that a pregnant woman has the right to their choice of companion during all maternity care (The White Ribbon Alliance, 2021; World Health Organization, 2014). It has been 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). Similarly, increased psychological distress has been found in women birthing without a support person, with an increased risk of experiencing clinical acute stress during birth than women with a support person (Mayopoulos et al., 2020).

As can be seen, the women needed to draw on their inner resilience to help them through the many challenges of having a baby within the context of the COVID-19 pandemic. Some women were able to do this through drawing on their past experience as mothers, and/or with mental health struggles, to put in place healthy coping strategies. For most of the women, engaging in healthy emotion regulation strategies such as exercising, getting outside in nature, journaling, mindfulness, and acceptance helped them to cope. When having to face medical professionals alone without support from their partner or whānau, many women drew on their inner strength to self-advocate. While it was uplifting

and inspiring to see the theme of inner resilience emerge from the women's stories, it was also disappointing to discover that they needed to draw so heavily on this inner strength. Perhaps less inner resilience would have been needed should adequate social support have been accessible to these women during the birth and postpartum period.

“No one cared for mum”

The women's stories suggested there was a lack of focus on their own wellbeing during the postnatal period. Many mothers perceived postnatal healthcare appointments, particularly with Plunket, to be heavily focused on the baby which is an issue that has been identified in previous research (Megnin-Viggars et al., 2015; Turner et al., 2010). Midwifery care ends at 6 weeks postpartum when Plunket appointments take over. These appointments are around 15 minutes once every 3 months with a registered nurse and are usually focussed on the baby. Due to the pandemic, these appointments were often postponed or via phone only.

The women found there was a lack of connection with their Plunket nurse, making it difficult for them to be open and honest about their struggles. Connection to health care providers has been found to be important for the disclosure of mental health struggles (Megnin-Viggars et al., 2015). Consistent, frequent and compassionate support from a healthcare provider helps to facilitate a relationship that is conducive to a woman asking for help, with infrequent support reducing the likelihood of self-disclosure of depressive symptoms (Megnin-Viggars et al., 2015). The women in the current study have perceived Plunket appointments to be too short, infrequent and focused on the baby to facilitate the relationship needed for disclosure of mental health struggles.

According to the midwife interviewed, there is a lack of focus during midwifery training on maternal mental health, which may act as a barrier to midwives enquiring about a mother's mental health. 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; Ross-Davie et al., 2006; Viveiros & Darling, 2019). An integrative review by Bayrampour et al (2018) found midwives lacked confidence in using screening tools and managing challenging conversations surrounding maternal mental health. It was found that midwives gain most of their mental health knowledge through work experience and colleagues rather than through formal training (Bayrampour et al., 2018). Incorporating perinatal mental health training in midwifery training is needed to help reduce the barriers to mothers accessing postnatal mental health support (Bayrampour et al., 2018).

The interviews with both the mothers and health care providers also identified a lack of support services to connect women to when they do reach out for help. Maternal mental health provides women who meet criteria (a score of 17 or higher on the EPDS) with fully funded care, usually including a case manager (a mental health nurse), along with access to a psychiatrist, and a range of treatment options depending on her specific needs (Auckland District Health Board, 2021). However, for women who do not meet criteria for maternal mental health, such as those who experience mild to moderate depressive symptoms, there are limited options outside of medication available.

The women in this study who visited their GP for help with their mental health were primarily offered medication. Talk therapy, if offered, was 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 psychologist and counsellors, as well as significant expense (Paterson et al., 2018). Work and Income (WINZ) will cover a maximum of \$66.11 per week for counselling if a woman meets criteria for a disability allowance (Work and Income, 2021). This requires her to have a low household income, and a diagnosis of a health condition or disability that is going to last at least 6 months (Work and Income, 2021). Four free therapy sessions can be obtained through the Primary Health Organisation (PHO); however, there is often difficulty in meeting the criteria needed to access this (Paterson et al., 2018). There are free telephone helplines such as the Need to Talk 1737 number, Depression Hotline, Anxiety Hotline and Lifeline. However, these phone lines are typically targeted at reducing immediate distress, rather than providing longer term support and care (Need to Talk, 2021).

The women's experiences in this study reflect the findings of the New Zealand Mental Health Inquiry, which was an investigation conducted in 2018 with the purpose of evaluating the current state of mental health and addiction services within New Zealand (Paterson et al., 2018). The inquiry found a gap in services available for those with mild to moderate mental illness. It also identified there is 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 results from this study suggest that improving the access to in-person social support and healthcare appointments during the pandemic could help reduce distress and suffering in postnatal women. Prior studies have recommended that safe access to social support should be prioritized for women in the postpartum period (Alhomaizi et al., 2021). For example, support groups and parenting classes could be delivered outside, with social distancing and mask wearing protocols to reduce the risk of transmission (Alhomaizi et al., 2021). Safe, in-person check-ups with postpartum women and their babies should be prioritised, while still ensuring the safety of the health care professional and patients through social distancing and mask-wearing protocols (Alhomaizi et al., 2021). This aligns with the views of the women in this study who felt there was a need for in-person visits to check on their own wellbeing as well as their baby's.

Another recommendation from 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 aetiology of perinatal mental health struggles (Chandra et al., 2019). The midwife in this study suggested the need for a dedicated postnatal mental health support phone line within New Zealand. In Australia, there is a government-funded dedicated postnatal depression and anxiety support line known as the PANDA (Perinatal Anxiety and Depression Australia) phoneline (Biggs et al., 2019). This line is for mothers to call if they are experiencing emotional distress in the perinatal period (Biggs et al., 2019). There are over 10,000 calls made to this phone line each year, with almost one third of these callers identified as experiencing suicidal or self-harm thoughts (Biggs et

al., 2019). In 2018, a study of the profiles of callers to the PANDA helpline was conducted, finding that factors that contributed to the callers' distress included social isolation and stressful life events (Biggs et al., 2019), which are factors that the pandemic is expected to have exacerbated. By April 2020, calls to the PANDA line had increased by 30%, indicating the impact the pandemic has had on parent distress (Brown, 2020).

For New Zealand women, there is not an equivalent phone line to contact for postnatal emotional support. Plunket line is heavily focussed on the baby and physical health, and according to the midwife interviewed, the nurses on this line are not thoroughly trained in how to deal with mental health issues. A dedicated postnatal mental health support line would help to support women experiencing mild to moderate perinatal distress, who do not meet criteria for maternal mental health. It would also transcend the barriers of the pandemic, as it can be contacted from the safety of home, helping to reduce the spread of the virus. Considering the pandemics' impact on postnatal mental health (Ceulemans et al., 2020; Davenport et al., 2020; Guo et al., 2021; Jiang et al., 2020; Myers & Emmott, 2021; Ran et al., 2020; Sun et al., 2020; Vazquez-Vazquez et al., 2021; Wu et al., 2020), having a dedicated postnatal mental health line could be a safe source of support for many women.

It should be noted that while there are many benefits to the use of telehealth during the pandemic, it can also lead to disparities for those who are not technologically savvy, or who do not have access to technology due to financial reasons (Chunara et al., 2020). This can lead to inequalities in the access of telehealth for those from lower socioeconomic demographics, as well as those of different race/ethnicities, or experiencing language barriers (Chunara et al., 2020).

There are also concerns with privacy, as the home environment does not always allow for full confidentiality (Krittanawong, 2020; Romanchych et al., 2021).

Therefore, a postnatal mental health support line should be one of a range of support options available for women postnatally.

Another recommendation from this study which aligns with recommendations from the New Zealand Mental Health Inquiry, is 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, there is a mental health care plan that individuals can be put on by their GP that provides 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 help to improve the affordability of talk therapies for everyone, regardless of their 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. It has been well-established that there are a lack of counsellors, psychologists and other mental health professionals within the New Zealand workforce (Paterson et al., 2018). It has also been acknowledged that the bulk of the funding for NZ mental health services is put into supporting the 3% of the population with the most severe mental illness (Paterson et al., 2018). The NZ Mental Health Inquiry has identified that this is an important area for

improvement to help improve access and affordability to mental health care for all New Zealanders (Paterson et al., 2018).

Recommendations for future research

Future research should focus on asking New Zealand mothers what forms of postnatal mental health support they feel are needed, both within and outside of the pandemic context. Allowing women's voices to inform the development of postnatal support is vital to ensuring that the treatment options available meet the needs of the users of the system. It would also be beneficial to find out the views of postnatal women on the establishment of a New Zealand postnatal mental health phone line. Future research should also focus on what Māori women's experiences of the postnatal period have been during the pandemic. There may be differences in their experiences than the women interviewed in this study, and considering that Māori are overrepresented in mental health statistics (Ministry of Health, 2014), finding out their needs is important.

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. Significant efforts were made to recruit Māori participants through individual networks, Māori based organisations, and social media, to no avail. Hence, these results do not include Māori women's views on the experience of postnatal mental illness during the pandemic. This is a significant limitation to this study due to the overrepresentation of Māori within mental health statistics within New Zealand (Ministry of Health, 2014). It is important that Māori women's voices and needs are heard when researching postnatal mental health within New Zealand.

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 throughout the pandemic to date. Studies with a broader geographical scope are needed, to find out the perspective and stories of those living outside of Auckland. This study is also 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 traffic light system within New Zealand. While longitudinal studies are needed, a strength of this study is that the interviews were conducted around 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 has been helpful, unhelpful and what was missing. The experiences of the women also aligned with the findings of the Mental Health Inquiry, which was conducted in 2018, before the pandemic emerged, suggesting that these views are not only confined to the pandemic context.

Implications

Through hearing the experiences of New Zealand women who have given birth during the pandemic, this study brings light to the postnatal mental health impact of the pandemic within New Zealand. New Zealanders have experienced more freedom during the pandemic than most populations around the world, with the New Zealand government's response to the pandemic generally praised. It is

therefore interesting to have New Zealand based studies on the impact of the COVID-19 pandemic, as it suggests that even with a successful government response, the pandemic can still have significant impacts on mental health. Consistent with past research, the women's stories reflect an increase in anxiety due to the uncertainty surrounding the pandemic, as well as an increase in financial stress. The results show the importance of face-to-face contact with others, and practical help from the wider whānau and community during the postnatal period, suggesting the need to reduce the social distancing restrictions placed on this vulnerable population.

These findings align with the results of the New Zealand Mental Health Inquiry, which found a heavy reliance on medication due to a lack of other treatment modalities being available or easily accessible (Paterson et al., 2018). Improving accessibility to a range of treatment options to those with mild to moderate mental illness needs to be a priority.

Conclusion

Overall, the women and healthcare provider's 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. The ability to access treatment options other than medication was extremely difficult due to wait lists and cost barriers.

These results build on the existing evidence of the negative impact the pandemic is having on postnatal mental illness (Ceulemans et al., 2020; Davenport et al., 2020; Farewell et al., 2020; Guo et al., 2021; Jiang et al., 2020;

Perzow et al., 2021; Ran et al., 2020; Sun et al., 2020; Vazquez-Vazquez et al., 2021; Wu et al., 2020), as well as align with the findings from the New Zealand Mental Health Inquiry. Recommendations based on this study are to prioritise safe, in-person access to important sources of support and healthcare for postnatal women. Improving accessibility to a range of treatment options to those with mild to moderate mental illness needs to be a priority. A dedicated postnatal mental health support line for New Zealand women could be beneficial, to broaden the support options available to mothers, both within and outside the pandemic context. More focus on maternal mental health training for midwives and other postnatal health care providers such as Plunket nurses is also warranted, to increase their ability to support women struggling with postnatal mental illness.

Considering that the COVID-19 pandemic is ongoing, and future pandemics are inevitable, ensuring that mental health treatment and support options are available to New Zealand women in the vulnerable postnatal period, will help to protect not only the mother's wellbeing, but that of her baby. A healthy, happy mum is vital to providing our tamariki the best start in life, which has long term benefits for society as a whole.

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Appendices

Appendix A: Information for participants

Postnatal depression and anxiety during the COVID-19 pandemic: what helps from the perspective of mothers and health care providers within New Zealand

Thank you for your interest in participating in our study. This study aims to interview Auckland women who gave birth during the pandemic with lived experience of postnatal depression and/or anxiety, as well as health care providers, to find out what is most needed to support postnatal mental health in the context of the pandemic. This study will serve as a Master's thesis for Amelia Ryan, postgraduate student in psychology at the University of Waikato.

The postnatal period is a time of immense change for women. Whilst it is a very special time with the introduction of a beautiful new family member, it can also be an incredibly stressful period due to the physical, emotional and social changes that take place for the mother herself, making her more vulnerable to mental health struggles such as postnatal depression and anxiety. Experiencing early motherhood during the COVID-19 pandemic has been found to increase the risk of postnatal mental health struggles further. It is therefore very important that we find out what helps, what doesn't and what is missing that could help new mothers cope during the COVID-19 pandemic. This study aims to find this out through interviewing mothers and health care providers to find out their perspectives and recommendations.

Study Procedures:

If you participate in the study, you will be asked to complete an interview with Amelia (the researcher) via Zoom (or phone if you prefer). This is expected to take approximately 1 hour. Interview questions will focus on how you and your whānau have been affected by COVID, your experience of having a baby during COVID, and what you have found helpful, unhelpful and missing that could have helped you to cope during the postpartum period in the context of the pandemic. The interview will be recorded and transcribed verbatim by professional and confidential audio transcription software (Otter.ai - see <https://otter.ai/about> and <https://blog.otter.ai/privacy-policy/> for more information). Recordings will be deleted immediately after transcription, removing them permanently from the transcription service Otter.ai files. You will be given the opportunity to opt out of the use of this software before the interview. You will be given a chance to review the transcript and make any changes or corrections.

All information you provide in the study will be kept confidential; your name will not be stored with any of the data collected. The only exception to this would be if we were concerned for your immediate health or safety; in this case, we would encourage you to talk with your health care provider, but in an emergency, might need to contact them directly. Data will be kept in password-protected computer files for at least five years after the study is completed. Results from this study will contribute to Amelia Ryan's

Master's thesis, and may be published in a journal article and/or professional conference presentation. We will also produce a brief summary of findings, which we will send to you if you wish. You will not be identifiable in any reports or presentations connected with the study.

You are always free to withdraw from the study at any time up until a month after the end of your participation, or to decline to answer any questions. We hope that participating in the study will be helpful to you in terms of being able to share your experiences and recommendations, however we cannot know for sure whether you will benefit from participation. If you have any questions about this research, please feel free to contact Carrie Barber at carrie.barber@waikato.ac.nz, or 07 837 9221, or Amelia Ryan at 027 276 9420.

This research project has been approved by the Human Research Ethics Committee (Health) of the University of Waikato under HREC(Health)2021#15. Any questions about the ethical conduct of this research may be addressed to the Secretary of the Committee, email humanethics@waikato.ac.nz, postal address, University of Waikato, Te Whare Wananga o Waikato, Private Bag 3105, Hamilton 3240.

Appendix B: Consent form

Consent Form

A completed copy of this form should be retained by both the researcher and the participant.

Research Project: Postnatal depression and anxiety during the COVID-19 pandemic: what helps from the perspective of mothers and health care providers within New Zealand

Please complete the following checklist. Tick (✓) the appropriate box for each point.	YES	NO
1. I have read the Participant Information Sheet (or it has been read to me) and I understand it.		
2. I have been given sufficient time to consider whether or not to participate in this study.		
3. I am satisfied with the answers I have been given regarding the study and I have a copy of this consent form and information sheet.		
4. I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any point until one month after the completion of my participation, when data analysis will be in progress.		
5. I have the right to decline to participate in any part of the research activity.		
6. I understand that the interview will be recorded and transcribed and I will be given a chance to review and correct the transcript if I wish to.		
7. I understand that the interview will be transcribed using a third party speech-to-text transcription application (Otter.ai – for more information please see https://otter.ai/). Please note all responses transcribed in third party applications will be kept secure, confidential and anonymous. Recordings will be deleted immediately after transcription, removing them permanently from the transcription service files. If you do not agree to this, please tick no and the interview will be transcribed manually by the researcher (i.e. not using third party software).		
8. I know who to contact if I have any questions about the study in general.		
9. I understand that the information supplied by me could be used in future academic publications.		
10. I understand that my participation in this study is confidential and that no material, which could identify me personally, will be used in any reports on this study.		
11. I wish to receive a summary of the findings.		

Declaration by participant: I agree to participate in this research project and I understand that I may withdraw from the study at any point until one month after the completion of my participation. If I have any questions about this research, I can contact Dr Carrie Barber at carrie.barber@waikato.ac.nz. Any questions about the ethical conduct of this research may be addressed to the Secretary of the Committee, email humanethics@waikato.ac.nz, postal address, University of Waikato, Te Whare Wananga o Waikato, Private Bag 3105, Hamilton 3240.

Participant's name _____

Signature: _____ Date: _____

Declaration by member of research team: I have given a verbal explanation of the research project to the participant, and have answered the participant's questions about it. I believe that the participant understands the study and has given informed consent to participate.

Researcher's name (please print): _____

Signature: _____ Date: _____

Appendix C: List of support services

Support Contacts

If you feel you would benefit from support with parenting or postnatal mental health, there are many services within the community that can help. Please find a list below. Contacting your GP, midwife or Tamariki Ora Well Child Provider is recommended as a great place to start if you are struggling. If you ever feel you are in immediate danger please call 111.

Phone Support:

- Healthline (0800 611 116): A 24-hour telephone health service.
- Lifeline (0800) LIFELINE or [0800 543 354](tel:0800543354): Free 24-hour confidential support.
- 1737, Need to Talk? Call or text 1737 for free to talk to a trained counsellor.
- Plunket Line (0800 933 922): Call free for 24-hour parenting help and advice.
- Anxiety New Zealand (0800) ANXIETY or (0800 269 4389): Free 24-hour anxiety helpline.
- Depression Helpline (0800 111 757) or free text 4202: Talk to a trained counsellor about how you are feeling or to ask any questions related to depression.
- [Women's Refuge Crisis Line](tel:0800733843) (0800) REFUGE or (0800 733 843): For women living with violence, or in fear, in their relationship or family.
- Crisis Assessment and Treatment Team (0800 50 50 50): Available 24/7 for mental health emergencies.

Internet Resources:

- Just a Thought www.justathought.co.nz: This is an online evidence-based Cognitive Behavioural Therapy (CBT) course that is designed for people with mild-to-moderate symptoms of anxiety and depression. CBT teaches people how to control their emotions, thoughts and behaviour to improve their mental health.
- Mothers Helpers www.mothershelpers.co.nz: Mothers Helpers supports mums under stress and includes an online PND recovery course.
- www.depression.org.nz: This website helps New Zealanders to recognise and understand depression and anxiety.
- Plunket www.plunket.org.nz: Plunket has a range of information on parenting and family wellbeing including postnatal depression
- Perinatal Anxiety and Depression Aotearoa www.pada.org.nz: PADA champions awareness and best practice in perinatal mental health care to ensure all families have access to appropriate information and support.

Appendix D: Email to potential participants

Kia ora colleagues,

I am working with a masters student, Amelia Ryan, on a study of women experiencing postnatal depression and/or anxiety during the COVID-19 pandemic to determine what has helped and what is missing from mental health support. We are looking to interview both mothers with lived experience, as well as mental health care providers (e.g. midwives, or postnatal support group leaders) to find out their experiences with supporting women experiencing postnatal distress during the pandemic. Participants would need to be living in Auckland. The study will involve one interview via zoom that will take approximately 1 hour. Participants will receive a \$20 voucher to thank them for their participation in the study.

If you or any women that you support would be interested in participating, please see the attached poster and information sheet for further information. We are looking for 6-8 mothers, and 3-4 mental health care providers.

Thank you for your help!

Carrie Cornsweet Barber, Ph.D.

Registered Clinical Psychologist

Senior Lecturer

School of Psychology

University of Waikato

07 837 9221

Carrie.barber@waikato.ac.nz

Appendix E: Recruitment poster

We would like to talk confidentially to mothers based in Auckland who had babies during COVID who have struggled with their mood or anxiety during this challenging time. We hope to understand what is needed to best support the postnatal mental health of women during the pandemic.



If you are interested please contact Amelia Ryan at ad225@students.waikato.ac.nz or 027 276 9420

This research is being completed for a masters thesis supervised by Dr Carrie Barber (carrie.barber@waikato.ac.nz) Participants will receive a \$20 voucher as koha

This research has been approved by the Human Research Ethics Committee (Health) of the University of Waikato

Appendix F: Interview outline

Interview Outline

Information and Consent Process

- Rapport building questions if needed: How's your day been going? What part of Auckland do you live in? Did you grow up there? How old is your little one? Any other kids? Names?
- Introduce self and study briefly
- Researcher to ensure the participant knows they can withdraw at any time up to one month after interview.
- Researcher to ask if the participant has any questions relating to the study.
- Open with karakia? Support person?
- Ask if ok to record the interview for the purpose of transcribing it.
- Press record

Interview Questions for New Mothers:

Question 1: How has the COVID pandemic affected you and your family?

Prompts:

- Have you experienced a change to your work situation?
- Has it put financial strain on your family?
- Has it impacted your ability to feel connected to your friends/family?
- Have there been any positive changes?
- How has it impacted your experience of motherhood?

Question 2: Who do you feel you are able to rely on since having your baby?

Prompts:

- Who helps you with your baby/other children throughout the week?
- Do you feel you have someone to call on if you need help with parenting e.g. for advice, physical help or emotional support?
- How supported do you feel with parenting?

Question 3: I understand you have had some struggles with mood/anxiety (use participant's wording) since having your baby, can you tell me about your journey with this?

Prompts:

- Have you had mental health struggles before?
- Did you ever talk or think of talking to your family/friends or other sources of support (e.g. GP, Plunket nurse, midwife)?
- Did you get any treatment e.g. counselling or medication?
- Did you use any self-help strategies e.g. exercise/diet, meditation, journaling?

Question 4: What have you found has helped with your mood/anxiety (use participant's wording) since having baby? Why do you think this was helpful to you?

Question 5: Have you found anything unhelpful or ineffective at supporting your mood/anxiety (use participant's wording) since having baby? Why do you think this was unhelpful?

Question 6: What would you wish you could have had to help support you with your mood/anxiety (use participant's wording) since having baby?

Prompts:

- Do you feel there has been something missing that would have been helpful?
- Were there any barriers to accessing support services?

Question 7: If you could give advice to someone in the same situation, what would be your advice?

Question 8: Age and ethnicity and how many kids?

Interview Questions for Mental Health Care Providers:

Question 1: Can you explain what support you provide to new mothers experiencing mental health struggles?

Question 2: Have you had to alter the support you provide due to COVID 19 in any way?

Question 3: Have you seen an increase or decrease in service users?

Question 4: How do you think the COVID-19 pandemic has impacted the new mothers that you support, if at all?

Question 5: What do you feel has been most helpful to the women you support who had babies during the pandemic?

Question 6: Have there been any different needs you have identified in service users that are unique to the COVID pandemic?

Question 7: Are you planning any future changes to the support you provide due to the pandemic?

Question 8: Do you feel anything is missing that would benefit women going through postnatal mental health struggles during a pandemic?