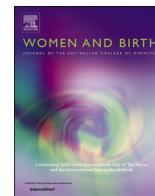




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Original Research

Either ‘a blessing in disguise’, or ‘I couldn’t get help,’: Australian and Aotearoa NZ women’s experiences of early infant feeding during COVID-19

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ABSTRACT

Background: To manage the COVID-19 pandemic, public health restrictions and a rapid pivot to telehealth occurred. Peripartum services were significantly affected by a strained infrastructure. Decreased face to face access to health services and support affected maternal experiences and confidence internationally, yet little was reported with the Australian and Aotearoa New Zealand context.

Aim: To explore the early parenting and infant feeding experiences of new mothers from Australia and Aotearoa New Zealand in the context of a pandemic.

Methods: An interpretive qualitative approach and thematic analysis obtained an in-depth understanding of the experiences of 27 mothers who gave birth during the first wave of the COVID-19 pandemic in 2020.

Findings: Australian and Aotearoa New Zealand women reported similar experiences, which varied contextually. Restrictions and requirements impacted favourably and unfavourably. Many women found the peace and space of social distancing an unexpected benefit and were proud of their achievements, whilst others shared feelings of

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isolation and distress. Some women felt they instinctively did what they needed to do. Experiences correlated with differing levels of self-efficacy.

Discussion: While many women relished the freedom from social obligations when faced with feeding challenges, there was general dissatisfaction with the level of support available. Care was fragmented, and health care needs were unmet, impacting feeding and parenting decisions and mental health.

Conclusion: Access to timely and appropriate professional support is an important factor in establishing breastfeeding and developing parenting confidence, particularly in the context of a pandemic and should be a health policy priority.

Statement of significance

Problem or issue

The pandemic has created significant shifts in the delivery of health care services, particularly for new mothers establishing infant feeding and parenting confidence. Policies and procedures have been implemented with limited understanding of their potential impact upon emotional and physical wellbeing.

What is already known

Internationally, the response to the pandemic has been varied. Most research has examined antenatal and intrapartum impacts rather than the postnatal and early parenting experience. Maternal mental health concerns have been exacerbated.

What this paper adds

This research, focused on Australian and Aotearoa New Zealand women's experiences, provides further evidence that access to timely and appropriate professional support is an important factor in establishing breastfeeding and developing confidence during early parenting, particularly in the context of a pandemic. Support should be prioritised through health policy.

Introduction

Transition to parenting and the establishment of infant feeding can be challenging, particularly when external influences affect access to social and professional supports. This study aimed to explore and understand the early parenting and infant feeding experiences of new mothers from Australia and Aotearoa (the indigenous Māori name) New Zealand (Aotearoa NZ) in the context of a pandemic.

Australia's first cases of COVID-19 were diagnosed in late January 2020 [1], and New Zealand's in February 2020. Up to the end of 2020, there were around 28,500 cases of COVID-19 in Australia, with 2 distinct peaks (or 'waves')—one in March/April (affecting all states and territories with most infections being acquired overseas) and one in June to September (mainly affecting Victoria with most infections being acquired via community transmission) [2]. The prevalence was less in Aotearoa NZ with only 2148 cases for 2020 and 2021 [3]. Despite early low case numbers, the high transmissibility and reproductive rates of COVID-19 [4] led Australian and Aotearoa NZ agencies to respond to the first wave of the pandemic by rapidly implementing transmission minimisation strategies. These strategies were designed to contain or slow the spread of the virus in the community, thereby reducing its overall impact. In March 2020, Australia and Aotearoa NZ entered Stage 1 restrictions. Non-essential businesses and activities were restricted from opening, numbers at non-essential gatherings were restricted, physical distancing guidelines were implemented, and non-essential travel was to be avoided [1]. 'Stay at home' orders gave only four reasons to leave home; to purchase food and supplies, medical care, outdoor exercise,

work, or education. Over the year [5], there were a range of national, state, and regional lockdowns, minimising interactions between people living outside the household, reducing droplet spread through Personal Protective Equipment (PPE) and stringent hand hygiene methods [6] were implemented and escalated. Health service delivery changes also occurred, and telehealth services swiftly replaced face-to-face consultations where possible.

The rapid redesign from face-to-face to digitalised and virtual health services significantly impacted maternal and newborn service provision in Australia and Aotearoa NZ. Hospital visitors for many women were limited to the woman's partner only and for restricted periods. Postnatal midwife home visits were reduced to 15-min face-to-face consultations, supplemented by phone call services, or not conducted at all. 'Infant feeding and output' assessments were considered suitable for phone-only support in Australia [7], while Aotearoa NZ allowed some face-to-face breastfeeding consultations [8]. Maternal and Child Health (MACH) services in Australia [9] and Well Child Tamariki Ora (WCTO) services in Aotearoa NZ were also impacted [8], with face-to-face visit limitations dependant on the level of public health restrictions at the time.

Globally, there was variation in the guidelines and services for pregnant, birthing, and breastfeeding women, creating potential uncertainty among health professionals [10]. Antenatal and postnatal visits were reduced. Increases in anxiety and depression and domestic violence were reported. Healthcare infrastructure was strained, and potentially harmful policies introduced with little evidence [10]. In other literature, mixed messaging regarding vertical transmission and potential risks of vaginal birth were raised; coupled with reports of early and prolonged separation of mother and baby emanating from China [11], the United States of America (USA) [12], and Australia [13]. The unsubstantiated claim that COVID-19 could be transmitted through breastmilk [14,15], created early and significant concern at a health systems level and drove the American Academy of Pediatrics to recommend mother and infant separation in the USA [12]. Subsequently, international peak bodies such as the World Health Organization (WHO) and the Royal College of Obstetricians and Gynaecologists (RCOG) published recommendations stating that mothers and their newborns should not be separated, and breastfeeding establishment should continue "as normal" but with additional hygiene precautions, such as mothers wearing a face mask [16,17]. A subsequent systematic review also concluded that breastfeeding should be encouraged, even in COVID-19 infected mothers if their health allows [18]. Regardless of the recommendations, many healthcare services were disrupted during the COVID-19 pandemic, with healthcare workers and mothers having to adapt to the requirements put in place. A global survey of health workers undertaken in 2020 [19] showed respectful care provided to women and newborns with suspected or confirmed infection was negatively affected by the health worker's personal fear and public health measures.

Our understanding of the postnatal and parenting experiences of Australian and Aotearoa NZ families remained limited, with research to date focusing more on the impact on pregnancy and childbirth [20]. The importance of breastfeeding according to international guidelines has been well documented in the published literature. There was no Australian or international literature showing the impact of policy changes on infant feeding and early parenting. This study fills that gap

by exploring the early parenting experiences of mothers in Australia and Aotearoa NZ during the first wave of the COVID-19 pandemic in 2020. We discuss the influence of social distancing on new mothers' infant feeding experiences.

Methods

Study design

A collaborative project between academics from eight Australian and Aotearoa NZ Universities was undertaken to explore new mothers early parenting and infant feeding experiences in the context of a pandemic. A two-phase study incorporated a) an online survey followed by b) individual interviews via Zoom, Skype, FaceTime, or telephone with selected participants. The online survey investigated the impact of breastfeeding self-efficacy and women's postnatal care experiences on breastfeeding outcomes in the context of the COVID-19 pandemic [21]. For the interview phase, an interpretive qualitative approach was used to obtain greater understanding of the early parenting and establishing infant feeding experiences of mothers who gave birth during the COVID-19 pandemic in 2020.

Participant selection

Women were invited to participate in the first phase of the study through social media advertising, targeted to early parenting social media groups, through Facebook, Twitter, and other online platforms. The invitation was extended to all women (not limited to those breastfeeding) who identified their eligibility as having had a baby in Australia or New Zealand during the preceding months of the Covid-19 pandemic (since March 2020). At the end of the survey, women could register their interest in being interviewed. Demand exceeded the number of interviews required. A maximum variation sampling technique [22] was used with women purposively selected for interview who would provide representation from a diverse range of geographical locations and models of maternity care. This method provided opportunity for a varied range of experiences to be studied in depth. Data collection for phase two occurred between September and October 2020.

Data collection

Interviews were conducted by seven investigators via Zoom, Skype, or telephone at a time convenient to the participant. All interviewing investigators were academics experienced in conducting qualitative interviews and have a health background, including midwifery, maternal and child health, and sociology. A semi-structured interview approach was used. Interviewers used a pre-determined question guide for consistency, however encouraged participants to talk freely through follow-up questions to gain greater understanding of the women's different experiences. Example questions are 'How has social distancing influenced feeding your baby?' and 'Where or from whom did you seek information and advice about COVID-19 and its impact on your pregnancy and infant feeding choices?'

Interviews were recorded and transcribed verbatim by a professional secretariat. The interview duration ranged from 13 to 70 min with a median length of 30 min. The interview question schedule was completed in all the interviews. In the longer interviews, participants tended to share more complex stories, while in the shorter interviews, participants provided less elaboration in their responses.

Data collection ceased at the point of theoretical saturation, determined by the scope of the study, participant characteristics and their specificity to the study aim and quality of interview dialogue [23].

Data analysis

Thematic analysis was selected as it is a flexible method, adaptable to

the needs of various studies while allowing for rich and complex expression of data. Data were analysed using a well-recognised six-step thematic analysis process [24]. Themes were initially constructed by two investigators, with a third providing iterative feedback. NVivo software was used to assist with data organisation and analysis. The preliminary themes were discussed at length and recoded and reorganised as required. The themes were then discussed with the wider group and consensus reached. Researchers were very aware of the potential for researcher bias and panel discussions were held regularly to mitigate its potential.

Ethical considerations

Ethical approval was first gained by the principal investigator's institution. This study received ethical approval from Deakin University [HREC approval no. HEAG_H 114_2020], with reciprocal approval from other authors' institutions [25601 (Monash); 4702 (University of Canberra); A201439 (University of the Sunshine Coast)]. Recorded consent for the interview was verbally obtained prior to commencement. All data were de-identified prior to analyses and participant identification protected by assigning pseudonyms for reporting of the findings.

Results

Semi-structured in-depth interviews were conducted ($n = 27$), with demographic characteristics of the participants presented in Table 1. Approximately two-thirds of participants resided in Australia, with an even distribution of primiparous and multiparous women. The majority of births occurred in a public hospital. Two-thirds of women stated they had exclusively breastfed their baby in the past week. There were no positive COVID-19 cases. Pseudonyms are used for all quotes to protect participant confidentiality.

Four themes were constructed from the qualitative data analysis 1). Feeding decisions and practices, 2). The COVID-19 breastfeeding experience, 3). Experiences of support, and 4). Psychological impacts (Fig. 1).

Theme 1. Feeding decisions and practices

Despite the mixed messaging early in the pandemic related to breastfeeding safety, the women who participated in the study did not

Table 1
Participant demographic characteristics ($n = 27$).

Demographic characteristic	Number (%)	
Country of Residence at time of birth	Australia	18 (66.7 %)
	New Zealand	9 (33.3 %)
Ethnicity	Australia Aboriginal	2 (7.4 %)
	Australian (non-Aboriginal)	13 (48.1 %)
	Māori	0
	New Zealand European	7 (25.9 %)
Baby age in weeks:	Other	5 (18.5 %)
	Mean	19 + 5 weeks
Parity	Range	6–30 weeks
	Primiparous	14 (52 %)
Place of Birth	Multiparous	13 (48 %)
	Public Hospital	22 (81.5 %)
	Private Hospital	1 (3.7 %)
	Birth Centre	1 (3.7 %)
	Home	3 (11.1 %)
Mode of infant feeding in prev. 7 days	Exclusive Breastfeeding	18 (66.7 %)
	Mixed (Breastfeeding, Formula, milk bank)	6 (22.2 %)
	Infant Formula only	3 (11.1 %)
Tested for COVID-19	Yes – positive result	0
	Yes – negative result	8 (29.6 %)
	No	19 (30.4 %)

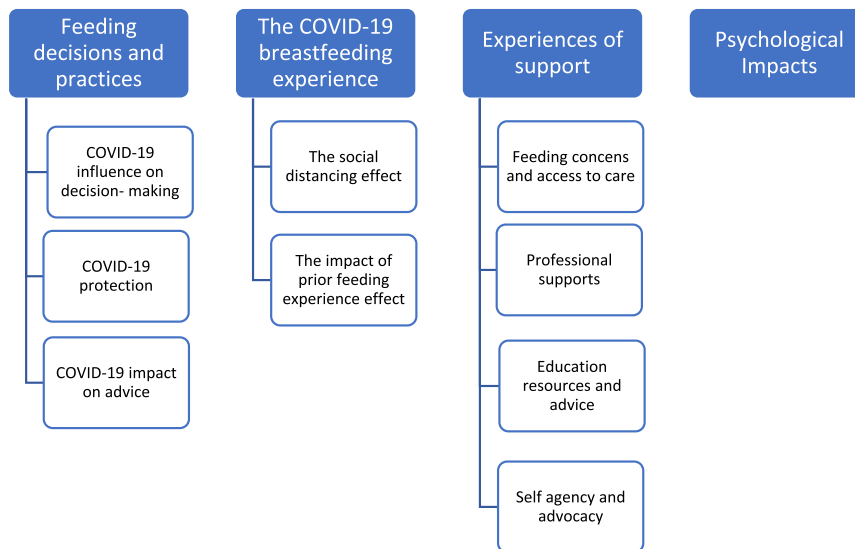


Fig. 1. Themes and subthemes.

articulate any associated concerns about their infant feeding decisions. Instead, their infant feeding decisions and practices were more likely to be impacted by external factors related to health service redesign and access to services during early lockdowns.

COVID-19 influence on decision making

Most women stated that their intention to breastfeed, mixed feed or feed solely with infant formula milk was not impacted by the pandemic and associated restrictions. Elaine described her decisions and infant feeding experience:

I don't want to put too much pressure on myself and be like okay it's just going to be breastmilk. So, we always, we had a tub of formula sitting at home just in case. yeah, we were always going to do a bit of a combination of both. And how it's affected with COVID? I wouldn't say that it has.

In contrast, some women stated that being home so much with the travel restrictions positively influenced their decision to continue exclusive breastfeeding. Yvonne stated:

I think it's just made breastfeeding less worrying because you're always at home... like you're not out so you don't have to worry about the logistics of it. Probably the biggest thing is probably the ease ... so you're not stressed about having to express and pack and cover yourself up.

However, other women stated that the lack of face-to-face support in the early weeks of breastfeeding and inability to access breastfeeding classes due to the restrictions, negatively impacted their decision-making around exclusive breastfeeding. Gail explained her experience:

I had every intention of [exclusive] breastfeeding, I feel like if Covid hadn't happened we would've got this [breastfeeding] issue sorted properly, and I probably wouldn't be mix feeding. But I don't know what they [health providers] would've been able to do, but I feel like we didn't get that chance to even explore it.

A number of women expressed concerns about accessing supportive equipment to breastfeed (such as breast pumps) to support their breastfeeding journey. Selena described her frustrations:

When I came home from hospital, I wanted a breast pump from my midwife, and I wanted my brother to go and pick up the breast pump from her, but she wasn't going to meet him because she didn't know him ... it kind of had to be contactless, which was a little bit annoying

and frustrating trying to get something like a breast pump when I needed it.

COVID-19 protection

The message to exclusively breastfeed, whether new mothers had contracted COVID-19 or not, was known by our participants and provided reassurance regarding their intentions to breastfeed. Deanne stated:

I remember reading that the best thing you could do even if you had COVID was to breastfeed your baby. There was quite a bit of information out there on some things that I followed about the importance of breastfeeding your baby and even if you were to contract COVID ... it was reassuring that breastfeeding was still safe during COVID.

Women also identified the importance of breastfeeding to provide their baby with protection from COVID-19. For some, like Olivia, the importance reinforced their decision to breastfeed exclusively while other women delayed planned weaning. Olivia said:

I'm always a big advocate for breastfeeding and had planned to breastfeed him. I guess maybe even more so reinforced that I wanted to breastfeed him because of the transferred immunity in some sense if there was any.

COVID-19 impact on advice

While two-thirds of participants were exclusively breastfeeding their baby, some women reported they were indirectly or mixed feeding due to perceived infant weight gain concerns. These women were feeding with their own expressed breast milk, donor breast milk or infant formula, with their options influenced by their caregivers and presumed COVID-19 restrictions. Deanna shared her experience of advice on feeding options received from a time poor health care provider.

...in the meantime, I'd been to the maternal child health nurse and she's a lactation consultant too but she was under really strict guidelines by the Dept of Health that she only had 15 min so she basically said you have to top her up with a bottle you have no choice – because she couldn't help and of course once you start doing that it's just you know downhill basically.

Theme 2. The COVID-19 breastfeeding experience

The women reported a wide variety of breastfeeding experiences related to COVID-19. For some the limitations to visitors created a quiet space to establish breastfeeding while for others, this limitation had a significant negative effect as they were stripped of the social supports and professional help that they would have otherwise accessed to work through establishing breastfeeding and resolving problems.

The social distancing effect

Many women revealed that the visitor restrictions provided them with additional privacy and peace to establish breastfeeding, both in the hospital or birthing centre, and during the first weeks at home. This initial breastfeeding 'bubble' with their baby was seen as a silver lining of the COVID-19 pandemic. Olivia stated:

... it was a lot more peaceful, and I feel like I easily understand what [baby]'s needs were because we didn't have the interruptions of visitors and it was a bit more predictable in what he needed, like when he needed a feed.

Selena also shared that she believed the space to breastfeed at home without interruption had a positive impact on her continuation of breastfeeding.

I just think it's been almost a blessing in disguise that everyone has given me space with my newborn baby and that you can relish that time with just your family, and I think it has encouraged me to feed her because I am at home.

However, several women reported their own or others' difficulties in establishing breastfeeding without the usual social support of experienced friends and other new mothers. Cathryn expressed her concern for new mothers in her local rural community:

...they've all got postnatal depression because they haven't had any support of breastfeeding or been able to breastfeed as a result of that. And so, they've actually given up on breastfeeding, it's made them feel really heavy and it's made me really sad as well because you know normally you hear something like that and you just head up to their house and have a chat ... but now you can't, you can't go anywhere with anyone.

Some women felt the impact of social distancing requirements on the level of professional support they had access to in establishing breastfeeding was substantial. These experiences are explored further in Theme 3.

The impact of prior feeding experience

The breastfeeding experiences during COVID-19 were impacted by the presence of lack of women's prior breastfeeding knowledge, skills, and experiences. Some first-time mothers discussed trying to learn a new 'skill' with limited support mechanisms in place, which at times, created a sense of disillusionment and distress. Violet explained:

I look back and it's just this blur of obsession with trying to get breastfeeding going and just it was like my life depended on it. And just so, so anxious you know like. Just the feeling that you can't get help you know and just the fact that first time mums, or any mums in the postnatal period - that physical contact wasn't - like it was decided that wasn't really important. You know like you can have someone there for your birth but they just send you home to figure out a really hard thing.

Multiparous women frequently described how previous experience helped them establish breastfeeding quite easily. Other multiparous women such as Gail indicated that they did not feel equipped to cope with new and unknown challenges and reported a lack of access to resources and support.

And then everything sort of changed where they couldn't then come and visit me anymore, it was all over the telephone, so I couldn't go and get him weighed, I didn't know how he was going weight wise with what we were doing, so I couldn't get anyone to come and check to see how we were breastfeeding, and yeah with three other children at home it was quite full on really.

Reflecting on her own breastfeeding experiences, above, Gail also empathised with women trying to initiate breastfeeding for the first time.

I struggled a lot, not badly struggled, but struggled a lot without that support and all the rest of it, and I was a fourth time mum, so I really had a lot of empathy for those first-time mums that you know, something - I just hope that if something like this happens again that there's strategies in place that can be a bit more supportive in that way.

Conversely, Kate shared her experience of a multiparous woman admiring her ability to cope as a first-time mother during a lock down.

This one woman had her baby in the lockdown and she said, "Are you a first time mum?", and I was like "yeah" she's like "Oh God ...I couldn't have done that! I couldn't have had a baby for the first time in a lockdown." She's like "That's amazing!" and I was like "Oh yeah, you know". I just don't know anything else; you know, this was my experience.

Theme 3. Experiences of support

The COVID-19 pandemic impacted women's access to health care support services, which was a focus of considerable discussion in the interviews. Women spoke of their difficulties in accessing health care services, health care professional support and appropriate health advice and resources. Women's support experiences and responses varied, with some women expressing frustration, others speaking of their distress at the situation, and some women actively seeking their own solutions.

Feeding concerns and access to care

Several women described experiencing complications with establishing or continuing breastfeeding and finding it difficult to access appropriate health support and advice. For example, being systemically unwell due to a lactation related condition impacted women's ability to access appropriate and timely management from the local health service and necessitated accessing other care pathways. Ava described her difficulties of accessing care for mastitis:

So you know like, first time Mum right, so I knew that if you had mastitis you were meant to get onto it really quickly, because I did not want to take antibiotics, and so like after waiting 2 h to have a teleconference about what I should do, just being told actually, can you just come in, I can't see if you have mastitis or not.... I was just like - anyway I thought I can afford it, I'm going to call a private lactation consultant, because I'm just not getting the support. It was the best decision ... of my life.

Women related their experiences of breastfeeding-related complications, such as tongue tie, jaundice, or failure to thrive not being identified quickly by health professionals. Shortened visits or telehealth visits without appropriate visual feeding assessments or follow up physical assessment of the neonate were cited as contributing factors. Gail described her experience of midwifery and MACH/WCTO home visits:

Yeah so we had midwives come to my house for 2 or 3 visits over the weekend, because I was having trouble with breastfeeding. And then I noticed that he was jaundiced, and I finally got the lactation lady when he was 8 days old, and she said that he was jaundiced, and we needed to go back into hospital for the night ... We had a few clinic

visits after that, but then they stopped because of COVID, so it was all on the phone. I couldn't get him weighed which was really hard because he was failing to thrive as well.

Quite a few women, particularly those new to breastfeeding, were concerned about their baby gaining weight. Many babies were not weighed in their first weeks following birth due to either telehealth visits, delayed or missed MACH/WCTO visits. Women described a degree of stress and anxiety about their baby's health and if they were 'getting enough milk. Deidre revealed her concerns:

I struggled with feeding her and she lost weight and then there was just no one to help you – like the consultants were only via Zoom which was quite – not very helpful.

Using ingenuity, some women found methods to gauge and assure themselves of their baby's growth. Belinda shared her experience:

That blue book is like pretty much empty because you know we've been weighing her by weighing me and then weighing her and you know, like her clothes are getting tighter so we're like she's doing well. So we're like okay.

Professional supports

There was significant variation reported by women about the quality and quantity of professional support offered. For example, Kate talked about her experience of conflicting hospital-based midwifery support in helping her baby to latch, that she felt was endemic to the health service.

I don't think it was impacted by COVID if that makes sense, so I think it was just pretty much what it normally is, and my experience mirrors quite a lot of new mums. I really struggled with the changing nurses giving different advice. I really struggled... there was a lot of kind of hands-on relatching without that talking through, and I guess that's why I look back and wonder how different it might've been if I'd been able to go to that breastfeeding class at the hospital.

Some women expressed that the midwife's concern for the risk of infection created a physical and clinical distance that did not feel supportive. Marama described her experience:

The nurse who was on explained that she felt more comfortable for me and her to wear full PPE. I was given the baby and given him to feed. I was also given a syringe to express colostrum which I couldn't do and that was very awkward because they were trying to stay apart and tell me what to do. So, in the end they did end up coming to help, but it was very – I wasn't really taught how to do it; it was just a 'let's get this done and get out of here' kind of feeling.

Women also reported mixed opinions about their preparedness for going home and their postnatal support once there. Cathryn expressed that she received helpful initial midwifery support prior to discharge home after the birth.

Very good, very attentive, a lot of guidance, check ins, yeah just making sure that I understood where I was at, my baby's needs were, breastfeeding requirements, what going home would look like, so they really made sure I was prepared for that, they were encouraging people for home care because of COVID, they were quite open about that. Thinking that it was better for people to be at home and out of the hospitals. Yeah so I thought it was excellent.

However, many women stated they had not yet established breastfeeding on discharge. Similarly, some women described feeling well supported once home, whilst others expressed feelings of discontent. The source of discontent was the level and type of support they received from home visiting midwives in the early postnatal period, and from the MACH/WCTO nurses, whose visits were short and often delayed or cancelled. Deidre described her experience:

The Maternal and Child Health nurse, they didn't do a two-week visit, so then you had to go into the clinic and by the time you get to the clinic she'd lost weight and her feeding was a disaster and you know because the appointment was only 15 min they can't help you with your feeding, ... so I found all that quite unsupportive during that time.

Women's ability to access additional support from a skilled health professional also varied. For example, some women were easily able to access a lactation consultant through the hospital for free or privately at a cost. However, as lactation support was not consistently deemed an essential service in either Australia or Aotearoa NZ, many lactation consultants and other health professionals were limited in the support they could provide in strict lockdown periods in some locations.

Deanne revealed:

But it would have been awesome to have seen a Lactation Consultant to check out our latch early on because I desperately started Googling, has he got a tongue-tie, has he got a lip-tie, do I need to see an Osteopath? But I can't go there either. Or a Chiropractor? But I can't go anywhere and my mum can't come around, no one.

Furthermore, whilst women received face-to-face care in hospitals and birth centres, once home, much of the care was provided by telehealth or phone, which most expressed did not provide them with the level of support they needed. According to Deidre:

...lactation needs to be face-to-face – like the Zoom was quite tricky and I've had previous Zoom meetings when even like I can't really tell but I think she's ok – do you know what I mean and by the time we got to face-to-face it was almost too late.

Women able to receive support in person at home found this method more valuable, however, the health service restrictions limited the amount of time available to provide breastfeeding support. Kate explained this service.

So the DOM (domiciliary) nurses would come out, they would sit out the front in their car and call, and do the full like conversation, and then they would come in like do a 15 min appointment in PPE, they would weigh and then they would check my scar, so I think they did that twice.

Education resources and advice: consistency and appropriateness

Women described accessing education resources and support regarding general feeding and COVID-19 related advice from numerous sources: health professionals via face-to-face and telehealth support, hospital and professional resources, television, Google, and support from other mothers and friends. The inconsistencies in advice, and level of disconnect in the support received via telehealth led some women to look for alternative options for support, as Kate and Deanne explained:

Yeah, and I guess for me I think that the biggest thing is as a new mum you kind of look to people, you look to things, or you Google just trying to work things out and you get the advice, but because it's all telehealth, it's all disconnected, there's that how is missing, like if that makes sense.

I did spend a lot of time, like I wasted a lot of time Googling and reading forums and blogs. Some stuff was really good, but also some stuff that was definitely not useful on everything from breastfeeding to trying to make my baby sleep to sleep training to co-sleeping to mixed feeding, tongue ties... everything that is out there in Google, I read it.

Self-agency and advocacy

A number of women revealed they were quite active in finding out information themselves or actively seeking support when their regular health service and professional support service avenues were not

available. This self-advocacy was driven by the need to provide the protection to their baby that breastfeeding afforded. Deanne stated the lengths she was prepared to go to:

I got so desperate to see the Lactation Consultant in person that I rang the local MP [member of parliament] and I rang a news station and I just tried everything. I couldn't believe that a Lactation Consultant wouldn't be classed as an Essential Service. it And I felt really – I was really mad about that. I was pretty riled up about that for a while and it still makes me quite mad I felt like my situation was pretty desperate. Like, it was either see a Lactation Consultant or probably stop breastfeeding my very young baby.

Theme 4. Psychological impacts

Women's experiences of infant feeding on their mental health were quite diverse. Some women revealed they were particularly proud of their achievement in establishing breastfeeding and their resilience in "sticking with it" despite the challenges of COVID-19 restrictions and reduced access to professional and social support. Deanne was proud of her perseverance:

I don't think he will care about that. He won't say, 'Mum, thanks for breastfeeding me.' No, I don't think he will. But I am super stoked that I persevered with it and I feel like now that I feel a lot better in myself, I am really proud of myself that I persisted with the breastfeeding in lockdown. Like, it doesn't get much harder than that surely? And I now have enrolled to do a breastfeeding peer support counselling course. So, I am really excited about that, and I feel that is my thing to do. That makes me really emotional. That's pretty cool. I don't think I would have even thought or bothered about doing something like that, had I not had the experience I had.

Conversely, some women reported experiencing significant challenges in establishing breastfeeding, which were compounded by the COVID-19 pandemic. Inadequate supports heightened feelings of isolation and inadequacy. Some women stated they felt that their bodies had let them down. Others experienced breastfeeding complications, which resulted in increased stress levels and feelings of despair in some instances. Violet described her anxiety:

I was so upset. And like anxious you know like knowing, knowing how important the early weeks are. Knowing that I couldn't get help. Knowing how badly I wanted to breastfeed. It's like, it's like my life depended on being able to breastfeed him. And also, like and anxious that my anxiety was affecting my supply. Anxious and it was just this like spiral and Jake couldn't really get it, like he thought 'you're kind of killing yourself to do this, there's a really easy solution like if he just needs to be fed we just give him a bottle no problem'.

Other women indicated they felt neither proud nor in despair, but just did what they could do; as one woman described, they were just 'winging it.' Uma stated:

I was kind of just winging it, I still am winging it, and I'm kind of okay with that as a person. I feel like if I was someone that perhaps needed more help, I would have struggled but I'm lucky that Tommy's a really good eater, he latches on really well and so I've never struggled. If I had, I feel like it wouldn't have been enough support. Perhaps they [MACH/WCTO nurses'] could tell that I didn't really need any further support that they didn't actively try to do it more, I'm not sure.

Discussion

The COVID-19 pandemic had a profound impact upon how perinatal health services are provided, and this is reflected in the experiences reported here of new mothers across Australian and Aotearoa NZ.

Establishing and maintaining infant feeding practices were varied and contextual, as was their experience of early parenting. Public health measures globally, and within Australia, resulted in some positive, but often negative experiences due to decreased social and health care professional support [25]. The psychosocial needs of new mothers during pandemic times must be a priority for maternity care.

The participants in this study expressed positive and negative impacts of the pandemic and maternity care changes. Those who had a positive experience described the peace and space afforded by social distancing as a blessing in disguise, and they felt proud of their achievements. Our findings are consistent with Canadian and British new mothers who reported some afforded benefits as 'silver lining' due to restrictions such as more time to bond with their baby, focus on breastfeeding and minimal interruptions from uninvited visitors [26, 27]. However, feelings of isolation and distress and a sense of there being no one to help have also been broadly reported [25] and were a key theme in our study. The lack of access to family support and health professionals further added to their sense of uncertainty and impacted decision-making.

Irrespective of parity women who described experiencing maternal or infant complexity found inadequate health professional care was available. Primiparous women in our study described the challenges of learning a new skill and the impact of limited supports due to the pandemic restrictions. However, multiparous women interviewed described an ability to draw on prior knowledge and skills to create a positive experience despite the context. A broad dissatisfaction with the community support, which was reliant on telephone calls, telehealth, and shortened, delayed or cancelled home visits had a substantial impact. Arguably, this impact was further compounded by reduced length of hospital stay and reduced exclusive breastfeeding at discharge, compared with pre-pandemic levels [28]. Globally, reduced emotional and physical support for women resulting from health providers' fear of infection and public health restrictions [19] concurs with our findings. Whilst participants in our study described negative experiences about the acceptability of telehealth which concurs with women in Canada [25] and the United Kingdom [26], researchers in the United States of America found women's level of satisfaction with lactation support via telehealth was high [29].

Most participants in our study (66 %) reported they were exclusively breastfeeding at the time of being interviewed. Multiparous women who had successfully established breastfeeding indicated less external support was required, whilst some first-time mothers also reported a relatively seamless establishment of breastfeeding. For those who encountered challenges specialised support was inaccessible or limited. The Australian Breastfeeding Association (ABA), in response to the pandemic, provided up to date information on their website, increased their counselling services, pivoted face-to-face services to online services, and developed resources for women and health professionals [30]. An online survey of women who contacted the ABA during the pandemic's first wave wanted support to protect their breastfeeding, increase their supply, or relactate [31]. The authors description of women's experiences of stress, isolation, and need for reassurance was very similar to our participants' stories.

Participant reported experiences between Australian and Aotearoa NZ women were similar overall, indicating comparable experiences and concerns regarding accessibility and provision of face-to-face health care services. Sakalidis et al. [32] support our findings, reporting worries about the pandemic, family health, and parenting challenges. The authors concluded that the mental health concerns of breastfeeding women appear to have been exacerbated by the pandemic [32]. The participants in our study also specifically cited increased levels of anxiety as a cause for concern.

The finding of differing degrees of personal resilience and confidence are evident in our study. This finding lends weight to phase 1 of this project [21] that revealed the existence of a lowered maternal sense of breastfeeding self-efficacy. Our study provides context to these findings

by describing, in depth women's experiences. The uptake of health promotion behaviours such as breastfeeding, and the strength of the individual's sense of self-efficacy influences goal setting and the firmness of commitment to meeting the goal [33]. Some participants described the lack of support they experienced as directly contributing to their decision to mixed feed or wean.

Self-efficacy has also been shown to be unstable in the early postpartum period [34]. Women who have negative breastfeeding experiences in the first week postpartum, experience potentially discouraging self-efficacy, or who describe a lack of desired social support, and have no or minimal prior breastfeeding experience are significantly less likely to exclusively breastfeed [35]. Our findings concur with and add strength to the findings from Phase 1 of our study [21], with our participants providing rich detail and describing characteristics that correlate to higher or lower levels of self-efficacy and subsequent outcomes. Whilst not broadly generalisable, some women described the value of early positive experiences supporting their commitment to continuing with breastfeeding, and conversely those with more challenging early experiences reported earlier weaning. A link between breastfeeding self-efficacy and mood has also previously been shown to exist, with higher levels of self-efficacy associated with positive mood outcomes at 6 weeks [36]. Early and unplanned weaning or introduction of mixed feeding that is in contrast with a preferred goal may contribute to vulnerabilities in a woman's mental health.

Different aspects of early parenting issues were also described, predominantly limited surveillance of infant weight gain. Women with potentially higher levels of self-efficacy described novel and visual means to reassure themselves their baby was thriving rather than by 'official' means, yet we know that concerns around weight gain are linked to a perception of insufficient milk supply (PIMS), a relatively recent historical phenomenon and a known predictor of feeding decisions [37]. PIMS is associated with lower breastfeeding self-efficacy [38] and with a loss of confidence in breastfeeding described by some women. This issue was not adequately addressed during the pandemic for our participants, with reports of service inadequacy, directly impacting women's decisions to cease exclusive breastfeeding.

Maternal intention to breastfeed has been shown to be a strong predictor of feeding outcome, with maternal knowledge about breastfeeding's importance and benefits as well as comfort in feeding in public influencing exclusivity and duration [39]. The transferred immunity of breastmilk substantiated women's intention to breastfeed. Breastfeeding reduces the risk of contracting COVID-19 among breastfed infants [40], a finding that provides further validation for women's feeding decisions. Our participant's intentions to breastfeed, were enabled somewhat by the 'less worrying' environment of home, where it was easier to feed without the need to maintain modesty in the presence of strangers. Previous studies have reported that women identify that to breastfeed in public they feel a need to be discrete and cover-up, to avoid discomforting others and protect themselves from unwanted attention [41]. Concerns with feeding in public is well documented as a negative contributing factor to women's breastfeeding decisions and practice [42], and one which was mitigated during the pandemic due to social restrictions.

Finally, it is well documented that exclusive breastfeeding is protective to mothers and babies. Negative health outcomes for mothers and babies occur more frequently where exclusive breastfeeding is not practiced as recommended [43]. At this stage it is not possible to determine the level of health outcomes and additional future health resources that will be required. However, pre-pandemic modelling costing the additional burden from modifiable paediatric and maternal diseases in the United States of America [44] suggests that for every 597 women who optimally breastfeed, one maternal or child death is prevented. These figures clearly demonstrate the impact breastfeeding has on women and babies' health and the need for its protection, promotion, and support through health policy and practice. Additional policy and practice support, given the alteration of health services resulting from

the pandemic and known adverse health outcomes of not breastfeeding, is therefore warranted.

Strengths and limitations

There is little research specifically focused on the Australian and Aotearoa NZ experience of breastfeeding and early parenting during a pandemic. One limitation of the study is that it was undertaken before COVID-19 was widespread in the Australian and Aotearoa NZ communities. Therefore, it does not capture the experiences of women and babies coping with the virus at the same time as trying to establish breastfeeding or identify what are their specific breastfeeding support needs. Another limitation results from the variation in participants' exposure and the local responses to the pandemic, which is also likely to have influenced their experiences. A further limitation is that Māori women's voices are not well represented as the team was unable to connect with this group, despite multiple efforts to do so. However, the similarities with other country contexts add strength to our findings and will be useful to inform improvements in policy and practice during the continued COVID-19 pandemic and better prepare for similar future events. As with all qualitative research, the findings are context-specific, and interpretation is open to bias. As the potential for researcher bias was recognised [45], the experienced team of qualitative researchers used multiple methods to ensure it was minimised. This included reflecting on our personal attitudes and assumptions, then discussing how this may impact the research process. Despite this, we acknowledge our experiences as midwives and mothers was likely to have played a role in interpreting the findings.

Conclusion

This study aimed to explore and understand the infant feeding practices and early parenting experiences of new mothers from Australia and Aotearoa NZ in the context of a pandemic. Research investigating the experiences and support needs for women and newborns to realise their infant feeding goals and confidently establish parenting during the context of a pandemic, now in effect for over two years, remains of paramount importance. The structural healthcare support changes caused by the public health restrictions have resulted in increased levels of stress and anxiety for many women establishing breastfeeding. Women with previously developed skills were also disadvantaged when they encountered new challenges requiring additional support. Furthermore, while some women displayed internal resources that supported their sense of confidence and self-efficacy, many did not. Our findings suggest that respectful, timely, woman-centred and effective support for childbearing women, and with particular regard for those establishing breastfeeding should not be interrupted, even during a pandemic. Health policy and practice should prioritise childbearing families.

CRedit authorship contribution statement

All authors contributed to the design and data collection. KG attended the initial analysis in consultation with MA and RD. MA and KG wrote the first draft with contributions from the team. All authors contributed to the further development and approval of the final manuscript.

Ethical Statement

Ethics approval Deakin University [HEAG_H_114-2020], University of Canberra [4702], University of the Sunshine Coast [A201439].

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Conflict of Interest

There are no conflicts of interest to report.

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