

## Breastfeeding in the pandemic: A qualitative analysis of breastfeeding experiences among mothers from Canada and the United Kingdom

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### ABSTRACT

**Background:** Previous research shows that the COVID-19 pandemic resulted in both barriers and facilitators to breastfeeding. However, little research has looked specifically at first-time mothers' experiences of breastfeeding during the pandemic or compared experiences of mothers living in different countries.

**Aim:** This research explores mothers' breastfeeding experiences to describe how the COVID-19 pandemic has affected breastfeeding journeys in Canada and the United Kingdom.

**Methods:** Ten semi-structured online interviews were undertaken with first-time mothers who breastfed their baby at least once during the COVID-19 pandemic and are living in Canada or the United Kingdom. Interview transcripts were coded inductively using thematic analysis.

**Findings:** One overarching theme (all on mother) and four sub-themes were identified: 1) accessing and advocating for health care, 2) social support, 3) becoming a mother in isolation, and 4) breastfeeding baby. Similar themes were constructed for both countries.

**Discussion:** Mothers reported that diminished health care and social support created challenges in their breastfeeding journey. Many mothers reported receiving virtual breastfeeding support, which was largely experienced as unhelpful. Some mothers reported fewer distractions from visitors and more one-on-one time with their infant, which helped them to establish breastfeeding and a strong mother-infant bond.

**Conclusion:** In both Canada and the United Kingdom, new mothers need consistent, reliable health care and social support when breastfeeding. This study supports the need to protect breastfeeding support in the midst of a global emergency and beyond to ensure positive breastfeeding experiences for both mother and baby.

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## Statement of significance

### Problem or Issue

Problem or issue: The COVID-19 pandemic decreased the amount of breastfeeding supports available to new parents. How this affects first-time mothers' breastfeeding experiences is largely unknown.

### What is already known?

The pandemic removed or changed many of the supports known to positively benefit breastfeeding. Both challenges and benefits of breastfeeding during the pandemic have been reported in other samples.

### What this paper adds?

First-time mothers in Canada and the United Kingdom reported both challenges with accessing professional and social support for breastfeeding difficulties, and benefits of having more isolated time with baby to establish breastfeeding.

## Introduction

The COVID-19 pandemic has disrupted many facets of society [1]. Both Canada and the United Kingdom (UK) have experienced lockdowns and stay-at-home orders to varying degrees since March 2020, causing social isolation, disruption of health care services, and widespread mental health challenges [2–6]. While lockdowns are critical for disease prevention [7], they cause difficulties and hardships in other areas.

One group particularly affected by the pandemic lockdowns are new mothers, especially those giving birth for the first time. It is well known that breastfeeding offers optimal protection for both infant and maternal health [8]. Exclusive breastfeeding is recommended for six months and partial breastfeeding for up to two years or as long as mother and baby want to continue [9]. However, significant disparities exist in breastfeeding rates between regions. Before the pandemic, in the UK, the prevalence of exclusive breastfeeding at six months was among the lowest in the world (1%) [10], while in Canada, the prevalence was higher at about 35% [11].

There are many factors that may hinder the ability to initiate and continue breastfeeding such as: inadequate social support [12] lack of health care support [13], difficulty solving problems with positioning and latch [14], misconceptions around routines and baby behaviour [15], returning to work [16] and maternal exhaustion [17]. The pandemic amplified and worsened many of these challenges. Changes to hospital support such as separating mother and baby at birth if the mother was COVID-positive [18], early hospital discharge [19], no support persons allowed during birth [20], and re-deployment of lactation professionals to COVID-burdened areas [21,22] have decreased skilled health care support and created barriers to establishing breastfeeding. Changes to community social and health care supports have also posed challenges. During periods of lockdown, social support from family and friends was limited [23], community breastfeeding groups were paused or moved to online [24] and in-person visits from health care providers, such as lactation consultants, were moved to virtual modalities [25] or cancelled all together.

Previous research from Canada and the UK has explored mothers' experiences of breastfeeding during the pandemic. While some mothers report that the pandemic lockdowns have allowed them more time to focus on bonding with their baby and establishing breastfeeding [24, 26], many others have struggled with lack of family support, poor mental health, limited in-person health care support and missing out on peer support groups [20,24,26,27]. However, these studies have not limited the sample to first-time mothers only or compared experiences of mothers living in two countries. These are important considerations

because first-time mothers have no previous experience with breastfeeding and may perceive needing more support [28,29]. Therefore, reduction in breastfeeding support due to the pandemic could affect this population more severely. Furthermore, comparing the experiences between two countries will show what experiences were country-specific or shared. We chose to compare Canada and the UK because both have public health care systems and provide a protected minimum 12-month maternity leave (and up to 18 months in Canada), with job security upon return [30,31]. However, the two countries differ in their breastfeeding rates at six months [10,11], and public perceptions of breastfeeding [32,33], with the UK having a lower prevalence of breastfeeding and generally less favorable view of breastfeeding compared to Canada. Differences between Canada and the UK provide an opportunity to highlight areas where breastfeeding support could be improved by learning from the other country.

At the time of data collection, Canada was beginning their 3rd pandemic wave (March and April 2021), while in the UK the 3rd wave had mostly subsided (May 2021). The Oxford Coronavirus Government Response Tracker (OxCGRT) [34] provides a composite stringency measure of nine COVID-19 response metrics including school closures, work from home orders and restrictions on public gatherings. The index ranges from 0 to 100, with 100 being the strictest score. The OxCGRT for Canada was 71.76–75.46 during the timing of our interviews (March and April 2021) whereas in the UK, the OxCGRT was 59.72–62.50 (May 2021) [35]. While the UK had lower levels of restrictions compared to Canada at the time of interviewing, both countries experienced similar challenges with postponement of routine or non-urgent medical appointments, stress on the healthcare system and staff shortages throughout 2020 [36]. The OxCGRT shows similarities between the two countries in the stringency of government measures from March 2020 to March 2021, with the UK index ranging from 60.19 to 87.96, and the Canadian index ranging from 63.46 to 76.39. Between 2020 and 2021 is the time period in which mothers in this study were reflecting and reporting on their breastfeeding experiences, providing a similar context in which to compare.

It is important to learn from mothers' experiences during the COVID-19 pandemic to be prepared for future emergencies and improve on existing systems. This research will inform which elements of breastfeeding care provided during the pandemic could be incorporated into ongoing breastfeeding support, and which were harmful and need to be improved or eliminated. The objective of this research is to explore first-time mothers' breastfeeding experiences to describe how the COVID-19 pandemic has affected breastfeeding journeys in Canada and the UK.

## Materials and methods

### Participants & measures

The Breastfeeding in the Pandemic Study (BIPS) was a qualitative descriptive study, including 10 one-to-one semi-structured remote interviews, five with Canadian participants and five with participants from the UK. Participants were selected based on a series of pre-identified inclusion and exclusion criteria. All were English-speaking first-time parents living in Canada or the UK, aged over 18 years who breastfed their baby at least once between the start of the pandemic (March 2020) and the time of data collection. Participants were also required to have access to a reliable internet connection for the online interview.

Different recruitment strategies were used for each country. In Canada, participants were recruited from a larger pregnancy-birth cohort called Pregnancy During the Pandemic study (n=11,000) [37]. A list of participants who consented to be re-contacted for future research and met the inclusion criteria (n = 74) was divided into five categories based on education level: completed high school, completed trade/ community college, undergraduate degree, master's degree, doctorate or professional degree. In Canada and the UK, higher maternal education is a significant predictor of breastfeeding status [38,39].

Therefore, we decided to select one participant from each educational category to ensure our results would not be clustered among those in high education groups who already had fewer barriers to breastfeeding. If a participant did not respond or refused to participate, another participant from the same education category was contacted. Four participants did not respond to email requests. One participant's interview failed to record due to technology error and was replaced with an interview from another participant.

In the UK, participants were recruited via a social media advertisement on an infant feeding academic's Twitter and Instagram accounts. Interested participants were directed to a Qualtrics survey to determine inclusion criteria and provide their contact information. Seventy participants responded to the survey, of which 24 met the inclusion criteria. Five participants were selected at random to participate in a one-on-one interview. Two participants did not respond when contacted, therefore, two additional participants were selected at random and agreed to participate, comprising five participants in total. The final sample included participants from five different education categories.

### Procedure

All interviews were guided by an interview schedule (Table 1). Questions focused on personal breastfeeding experiences rather than quantitative breastfeeding outcomes such as initiation and duration. Canadian interviews were conducted in March and April of 2021. UK interviews were conducted in May 2021. All interviews were conducted by ST, a female-identifying, non-mother, breastfeeding researcher. Interviews lasted between 18 and 39 min and were recorded and professionally transcribed. Upon completing the interview, participants received a \$25 CAD/ £ 15 gift card.

### Data analysis

All transcripts were coded after data collection was completed by ST using inductive thematic analysis [40] and were reviewed by two other members of the research team; one from Canada (MB), the other from the UK (AG). Codes were grouped into sub-themes and larger, overarching themes by ST, with input from MB and AG in several research meetings. We assessed the data for sub-theme similarities between the two countries and created a concept map that colour-coded the

**Table 1**

Interview schedule.

1. Tell me about your infant feeding experience. How is it going for you?
  - a. Prompts -> Are you just breastfeeding or are you giving any formula milk too? Has your baby ever had any formula milk? How old was your baby when you stopped breastfeeding? (if relevant?) What is your baby currently eating right now?
2. Do you think the pandemic has affected your experience of feeding?
  - a. Prompt -> How? Was there anything positive or negative? How was your experience in hospital and after you came home?
3. Do you think the pandemic changed your plans to continue breastfeeding your baby?
  - a. Prompt -> How? Tell me more.
4. Was there anything you wished had been different about your infant feeding experience?
  - a. Prompt -> Do you think those things were affected by the Pandemic? How did that make you feel?
5. Do you think that the pandemic has affected your relationship with your baby?
  - a. Prompt -> How? Is this a positive or negative change?
6. Do you feel the pandemic has changed the supports you need or would like to have during your infant feeding journey?
  - a. Prompt-> If yes, how has this affected your experience with infant feeding? How did the change in social supports and/ or health care supports affect your experience with infant feeding?
7. Do you think the availability of social and/or health care supports has affected your mental health while feeding your baby?
  - a. Prompt -> If yes, how?
8. Is there anything else you would like to add that you feel we didn't discuss today?

sub-themes based on country of residence (Fig. 1). We determined theoretical saturation when no new codes could be constructed from the interviews [41].

### Ethical considerations

Ethical approval was obtained from the Conjoint Health Research Ethics Board at the University of Calgary and the College of Human and Health Science Research Ethics Committee at Swansea University. Informed consent was obtained from participants prior to commencing the interview and participants were allowed to stop the interview at any time and withdraw from the study. Interviews were recorded using MS Teams, a cloud-based recording service. Interview recordings, transcripts and participant identifying information (i.e. name, age and email address) were saved on password protected computers and files.

### Results

The results from this study show that mothers experienced both challenges and benefits of breastfeeding during the pandemic. Our thematic analysis centered on an overarching theme of 'all on mother', which permeated each mothers' experience and connected all other themes together. Four further themes were situated below this overarching theme: 1) accessing and advocating for health care, 2) social support, 3) becoming a mother in isolation, and 4) breastfeeding baby (Fig. 1). Each theme was comprised of several sub-themes. There was a high degree of similarity in sub-themes between Canadian and UK mothers. In addition to the results presented below, supplemental quotes to support each theme can be found in Table 2.

### Participant characteristics

The mean age of Canadian mothers was 31 years old (range 27–35 years old), and the mean age of Canadian infants at the time of data collection was 8 months (range 6–10 months old). Similarly, among UK families, the mean mothers' age was 32 years old (range 26–34 years old), and the mean infant age was 9 months (range 6–13 months old). Education ranged from high school to PhD level among Canadian and UK mothers. Among Canadian participants, three infants were still receiving some breastmilk at the time of the interview; among UK participants, all five infants were still receiving some breastmilk at the time of the interview.

### Overarching theme: all on mother

The overarching theme 'all on mother' was a common thread that connected all other main themes in this analysis. Many mothers talked about how the pandemic placed the responsibility of feeding and caring for their baby, 'all on mother' because of diminished supports. The isolation from friends and family and reduced health care availability eroded the village of support participants felt was important to help them establish and continue breastfeeding. On the other hand, extended one-on-one time with baby helped some mothers to establish the breastfeeding relationship without disruptions or schedules.

### Theme 1. : Accessing and Advocating for Health Care.

Many participants felt they did not receive the hospital or community health care they needed to resolve breastfeeding problems during pandemic. Mothers reported needing to advocate for themselves and independently seek out care to ensure they received the support they needed.

Hospital overstretched: Many participants believed the breastfeeding support in hospital was lacking and inconsistent, hindering their ability to establish breastfeeding.

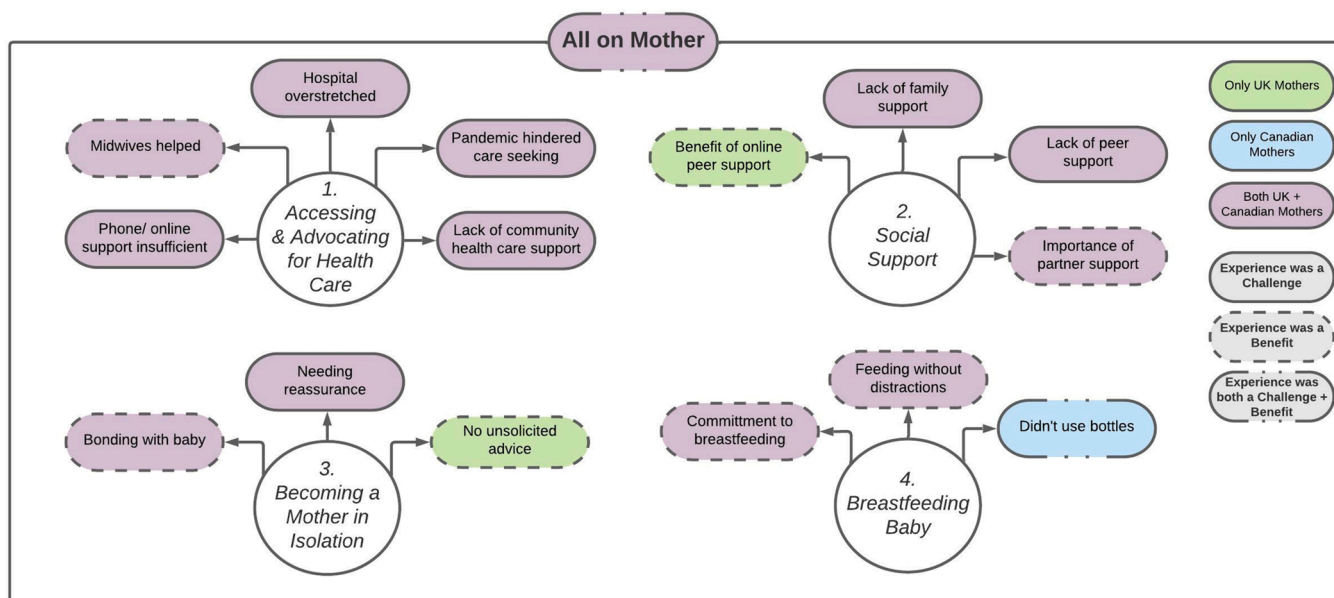


Fig. 1. Thematic Concept Map.

I need support to get her to latch at every feed and I didn't kind of have that because they were so over stretched. Because of COVID all the rooms had been clamped down. (UK mother (UK) 9)

**Lack of community health care support:** During the pandemic, some mothers reported receiving no home visits or in-person breastfeeding support. When in-person support was offered, the appointments were expedited, and many mothers felt they had no time to ask about breastfeeding difficulties because the visits were just "in and out". (Canadian Mother (CA) 3).

We've never been able to meet her [health visitor], and it's also extremely difficult to get in touch with either our health visitor or the health visiting team. So she would have been my first port of call for breastfeeding support so it's not been possible to get any in that sense. (UK 7)

**Phone/ online support insufficient:** Many first-time mothers described the need for a professional, or someone who had breastfed before, to show them how to do it because they had no previous experience. In these scenarios, virtual or phone support was insufficient.

It's different to be shown than it is to be texted something kind of thing. (CA 3)

**Pandemic hindered care seeking:** Some mothers reported refraining from seeing a lactation consultant or doctor due to fear of COVID exposure and the added stress of bringing their baby into public during a pandemic. Others needed to self-advocate for in-person appointments to get the care they needed.

I really had to insist on getting her a referral to the specialist tongue tie clinic. Then I had to insist on going because they kept saying "Are you sure you want to...COVID and all that". (UK 9)

**Midwives helped:** One participant from Canada and three participants from the UK reported receiving midwifery care, either in hospital or at home. Midwifery care was experienced as helpful for establishing breastfeeding and acquiring information on breastfeeding techniques.

They were extremely helpful. So they gave me actually additional appointments to check, and to make sure that I was 100% sure and I felt empowered in any decision I was making. (UK 10)

**Theme 2. : Social Support.**

Adequate social support from friends, family and other breastfeeding mothers was a gap reported by all mothers. Changes to social support created both challenges and benefits associated with breastfeeding experiences.

**Lack of peer support:** Many mothers commented that they greatly missed out on peer support while breastfeeding, such as breastfeeding support groups or visits from friends.

I do think for me the biggest thing that I'm the most upset about the pandemic affecting is the in person peer support groups. That's definitely what I think would have made the biggest difference. (UK 8)

**Lack of family support:** Mothers grieved the experience of sharing their first baby growing up with their close family members. Other mothers missed family members being able to provide emotional and tangible support.

Mostly for the fact that I would have really liked people to have shared the experiences that I have had with her in the last 6 months, that there's still people that haven't met her. (CA 2)

**Importance of partner support:** During the pandemic, some partners worked from home and could provide extra daytime support to mothers if needed. This was experienced as helpful for maternal mental health and making breastfeeding feel more manageable. In periods of strict isolation, husbands or partners were the only in-person support available to mothers.

My husband has had to step up a lot. Like he's taken days off of work sometimes when it's just, I get overwhelmed and it's just hard. He's taken time off so that I can just lay in bed all day or have a bath. (CA 4)

**Benefit of online peer support:** Some mothers from the UK reported that they received helpful online peer support in the form of Facebook and What's App groups.

Nothing has beaten having other new moms feeding at 3 o'clock in the morning that I could just send a message to and I know that like one of them will be awake and vice versa. (UK 6).

**Table 2**  
Themes & sub-themes with supplemental quotes.

Themes & Sub-Themes	Text Quote (selected quotes that illustrate the sub-themes)	Was the experience a challenge or a benefit?
<b>Overarching theme: All on Mom</b>	Usually they're like "Oh give him to me it's no problem, I'll take him over here" or do the bouncing or the walking the whatever, which I've done for so many friends. Like they can't do that it's still on me. (CA 5) I remember my midwife being like "It takes a village and now there is no village." (CA 5) I think there's been times where things have felt harder than they needed to be. An extra kind of perhaps anxiety put on me because I'm the one. (UK 9) I would again say that probably has helped us in a positive way. I think what she needed at the beginning was just me to be there constantly. My time and attention and I didn't have to share that attention with anyone else. (UK 9)	Challenge and Benefit
<b>Theme 1: Accessing &amp; Advocating for Health Care</b>		
Hospital overstretched	We had him in the peak of summer so I don't know if they [lactation consultants] were on vacation or because of COVID they weren't coming into the hospital or not. I think seeing the lactation consultant at the hospital would have been much more helpful (CA 4) I remember just these people running constantly around and continuously changing their PPE to make sure that everything was safe enough for everyone. There was a lot of pressure. I think that really made a difference to how they [health care providers] could support. (UK 10)	Challenge
Lack of community health care support	So they basically wanted you in and out. So you don't have time to talk about anything about her feeding or anything at that point. So everything is basically cut short or some appointments are over the phone rather than in person so they can't show you anything. (CA 3)	Challenge
Phone/ online support insufficient	You have to phone and get a telephone appointment um, so most of the time I either feel it's not worth the wait or the hassle about going about it. Because I could ring them and have to wait three weeks to speak to somebody on the phone. It's just not worth the hassle. (UK 7) It's very difficult to show people what I'm doing when I'm trying to maneuver a baby, a boob and a phone. (UK 7)	Challenge
Pandemic hindered care seeking	So I think that you know, in those first few weeks had it not been the pandemic maybe I wouldn't have felt so like overwhelmed at the idea of going to see a lactation consultant. (CA 5)	Challenge
Midwives helped	I do feel like my midwives were very supportive in the beginning and having them I think was really [unique]. (CA 5)	Benefit
<b>Theme 2: Social Support</b>		
Lack of peer support	Yeah I think because I have friends that are mat leave or who are stay at home moms and we haven't been able to have coffee together or anything like that which would have been nice to talk about. (CA 4)	Challenge
Lack of family support	If a family member had been allowed to visit or something like that just to give me that emotional support. I think that would have helped. (UK 9)	Challenge
Importance of partner support	I think the biggest thing that made a positive difference was that my husband was working from home rather than going into the office ... on the odd occasion when the baby was screaming so much he was able to clock out for a little bit and take the baby for a bit which was sanity saving. (UK 8)	Benefit
Benefit of online peer support	I still find it hard to make to places on time, if I was in a rush in the morning trying to get to an appointment I probably might end up cancelling. But the fact that it's [peer support] there at the end of the phone is a massive help. (UK 7)	Benefit
<b>Theme 3: Becoming a Mother in Isolation</b>		
Needing reassurance	Because you know, you've not got that support there to say "No that's fine you don't need to worry about that." People there to remind you that babies are resilient and that kind of thing. (UK 9)	Challenge
Bonding with baby	I feel very bonded to him and very protective of him. (UK 7)	Benefit
No unsolicited advice	There was no pressure about doing certain things or following certain advices. We just did what worked for us and focused on what worked for us without listening to unsolicited advice that you anyway get from family and friends. (UK 10)	Benefit
<b>Theme 4: Breastfeeding Baby</b>		
Feeding without distractions	When she was a tiny baby and I had nowhere to go with her so I could just be relaxed ready to feed her at any point, I wasn't trying to rush out the door to baby groups or trying to time feed because we just weren't going anywhere. (UK 9)	Benefit
Commitment to breastfeeding	I don't feel like any decision I made [about breastfeeding] was influenced by the pandemic. (UK 10)	Benefit
Didn't use bottles	It's a silver lining but maybe if I had had all that maybe I wouldn't have been so ready to just say like "No bottles ever." Cuz I might wanna go out sometimes but I don't go out so she doesn't use the bottles. (CA 1)	Challenge and Benefit

### Theme 3. : Becoming a Mother in Isolation.

In this sample of first-time mothers, learning to become a mother in isolation presented challenges and also had some silver linings.

Needing reassurance: Without in-person social and health care support, some mothers reported feeling unsure of themselves while breastfeeding and not knowing if the problems they were experiencing were 'normal'.

Because I didn't have like the opportunity to go to those kind of like social groups, or to do things like that in person, I think it was harder in terms of like emotional reassurance, and I think it was also harder to communicate what the problem was over an email for example. (CA 1)

Bonding with baby: Many mothers described that a benefit of the pandemic was having more one-on-one time to get to know and bond with their babies.

I think it's been more bonded. You're not as distracted with all the things that you could be doing. (CA 2)

No unsolicited advice: Without visitors and distractions while establishing breastfeeding, some mothers from the UK reported they could build confidence with their feeding method and not worry about the opinions of family and friends.

It's been nice to have a little bit of a pause before we started seeing people in the wider family because everybody's got their opinions.

I've kind of established how I wanted to do things first and be confident in what I was doing before we introduced other people that might say like "Is she really feeding that much?." (UK 9)

#### Theme 4. : Breastfeeding Baby.

First-time mothers in this sample had to largely figure out breastfeeding by themselves, which was accompanied by both challenging and beneficial experiences.

Feeding without distractions: Fewer visitors and less reason to leave the house allowed mothers and infants to establish breastfeeding on their own routine and without the added pressures of a strict schedule.

So, then I could just be at home and feed him when I needed to and not have to worry about going into a separate room when we were at somebody's house so that part I think helped me a lot. (CA 4)

Commitment to breastfeeding: Most mothers reported that the pandemic did not directly alter their breastfeeding duration. Two mothers reported that the pandemic helped them to breastfeed for longer, while one mother indicated the lack of support due to the pandemic forced her to stop breastfeeding before she was ready. (CA 3).

But I just always thought I would breast feed her and I hoped I would be able to do it for at least a year. That's still my intention is just to keep going. Like and that would be the same if it wasn't the pandemic. (CA1)

Didn't use bottles: Some Canadian mothers said their baby would only feed at the breast and not take bottles because they were rarely separated from each other. This was expressed as a challenge and a benefit simultaneously by contributing to the 'all on mother' theme; it placed the feeding responsibility all on mother, but also helped to facilitate a strong breastfeeding bond between mother and baby.

Like I'm here all the time, I'm not going out anywhere. Like there's really no reason to need the bottle. (CA 5)

#### Discussion

This study explored first-time mothers' experiences with breastfeeding during the COVID-19 pandemic in Canada and the United Kingdom. Largely, the same themes and sub-themes were reflected in both settings, with minor differences. Overall, mothers reported both challenges and benefits associated with breastfeeding during the pandemic.

The overarching theme of 'all on mother' was shared among participants from Canada and the UK and was experienced in multiple ways. Mothers from both countries described how difficult it was to be breastfeeding for the first time with very little help. In the current study, some mothers reported having to attend appointments by themselves, making them responsible for all the information or asking questions, while being unable to draw on the emotional support of their partner or other supporter. Lockdowns limited tangible supports, such as having family or friends come over to help take care of the baby, which has been shown to be valuable in supporting breastfeeding, particularly during the early weeks [42]. In addition, the pandemic created challenges for receiving breastfeeding peer support, which can improve breastfeeding duration, especially during critical time points such as the hours and days after birth when mothers are still establishing breastfeeding [13, 43]. The isolation and all-encompassing responsibility of mother was also reported by an Australian sample of mothers breastfeeding during the pandemic, who described the challenge of "doing it alone" [44] and an Irish sample who described the challenge of "at the end of the day, it's just you" [45].

On the other hand, some mothers experienced the 'all on mother' theme as a benefit, because they were with their baby constantly, which

helped them to establish a strong breastfeeding relationship. Previous evidence supports that mothers and infants who have immediate skin-to-skin contact and are kept together for the hours and days after birth have better breastfeeding outcomes [46,47]. While forced isolation of mother and infant together beyond the hospital stay is unique to emergent situations like the COVID-19 pandemic, this study shows that there may be continued benefit for limited separation between mother and baby while breastfeeding is occurring. It is important to note that the challenging and beneficial experiences of this theme were not mutually exclusive; some mothers identified experiencing both the difficult and beneficial sides of breastfeeding and caring for a new infant being 'all on mother'. Experiencing both challenges and benefits associated with breastfeeding during the pandemic has been highlighted in other research exploring the experience of breastfeeding women in the UK [24], the US [28], Belgium [29] and Australia/ New Zealand [48].

Another shared theme was the lack of community breastfeeding health care support. To limit contacts during the pandemic, breastfeeding support was moved to virtual modalities in many cases. However, mothers from both countries reported that primarily virtual support was insufficient for troubleshooting breastfeeding difficulties. The inadequacy of virtual support has been shown in previous studies with breastfeeding mothers during the pandemic [24,27,49] and is an opinion also shared by trained lactation providers [25]. While telephone or online breastfeeding support has several strengths such as flexibility, convenience of support in home, increased access, lower cost and has been shown to improve breastfeeding rates [50]; mothers in this study reported it was not an appropriate substitute for in-person support, particularly for issues relating to positioning and latch. In obstetrical and gynecological practice, care maps have been developed to determine which types of care require in-person support, and which can be provided virtually [51]. Moving forward, similar care maps could also be developed for lactation professionals to reserve in-person visits for physical difficulties, and virtual visits for informational support, even in the midst of a pandemic. Finally, patient preference and accessibility also must be considered, as some patients may prefer different combinations of in-person and online care.

Lack of peer support was also a theme shared between mothers from Canada and the UK in this study. Restrictions on in-person support due to the pandemic caused many mothers to turn to online breastfeeding peer supports. A recent review of online peer support through social media (e.g. Facebook groups), had inconsistent findings for improvements on breastfeeding outcomes [52], but did provide the benefit of a virtual community for mothers who felt isolated or let down by health care providers. Online peer support can also provide reassurance and normalize breastfeeding practices, is easy to access around the clock and provides information and advice from others with breastfeeding experience [52,53]. Further, local online breastfeeding support groups can translate into face-to-face meet ups, which can meet the need for in-person support when pandemic restrictions allow [54]. Improving the quality and access to online breastfeeding support could help to serve new mothers in the future. More generally, focusing on virtual supports would also help serve rural or marginalized populations who historically have lower access to in-person peer supports and lower breastfeeding rates [55]. The implementation of high-quality virtual care would require removing barriers to internet access for these populations to ensure equitable access across income and racial groups.

In the current study, mothers from both countries reported accessing some online peer support, however, only those in the UK indicated that this type of support was helpful. This discrepancy may be due to differences in the recruitment strategy of the mothers in the UK compared to Canada. In the UK, mothers were recruited through a social media platform that specializes in breastfeeding information. Therefore, these mothers may already be connected to an online network of people who support breastfeeding. Alternatively, online breastfeeding support may be more established and accepted in the UK compared to Canada. Research from the UK [56] and Australia [57] has highlighted the

considerable efforts that breastfeeding organizations in these countries went to in delivering targeted online support, including peer support for mothers during the pandemic. Mothers accessed this support for numerous reasons and found it a vital way of receiving information when face-to-face support was often limited. Exploring the differences in online peer support between Canada and the UK is an area of future research that could help inform developing better online support for Canadian mothers. While online peer support does have benefits, it is unlikely that it can replace in-person support entirely, as was done during the pandemic lockdowns. Moving forward, a combination of available in-person and online peer breastfeeding supports would be helpful to benefit the widest range of mothers.

Despite the many challenges associated with breastfeeding during the pandemic, some mothers in this study also reported experiences that benefited their breastfeeding journeys. Mothers from Canada and the UK reported that the pandemic lockdowns afforded them more time to bond with their baby and get into the rhythm of breastfeeding without distractions. Although the mothers in this study did not have prior experiences with which to compare, some believed they were more bonded to their baby than they would have been if they gave birth before the pandemic. These findings are similar to those from other studies in Canada and the UK that reported greater ability to breastfeed on demand, establish breastfeeding, and have uninterrupted time with baby during the pandemic [24,26]. It is important to note that in previous studies with larger sample sizes, the benefits of the pandemic were mostly reported among mothers with more advantageous living situations (i.e. fewer financial difficulties, faster Wi-Fi and greater access to greenspace) [24] and no pre-existing mental health concerns [20]. Therefore, the benefits of the pandemic may be only relevant for those who have fewer barriers to breastfeeding, and not a universal experience. Further, the benefit of uninterrupted time with baby during the pandemic confirms the need for postpartum people to have the option of accessing protected time postpartum to focus on their baby if they wish to do so. In Canada and the UK, most mothers receive 12-month minimum protected parental leave to allow time to develop the mother-baby relationship and establish breastfeeding [30,31]. Lessons from the pandemic could inform policy to expand protected leave to mothers who do not qualify under existing policies and for mothers in other countries that have shorter protected leave periods.

Another shared theme among both Canadian and UK mothers was the importance of partner support. For some participants, the pandemic lockdowns allowed their partners to be working from home and be more available to support breastfeeding. Even in the absence of working from home, those who had partners reported that their support was very important and experienced as helpful. Prior to the pandemic, both qualitative and quantitative studies have shown that partner breastfeeding support significantly improves breastfeeding experiences and outcomes [58,59]. During the pandemic, partner breastfeeding support became even more vital because other in-person supports were unavailable.

A theme that was unique to mothers in the UK was no unsolicited advice. Mothers from the UK indicated that the pandemic provided them more time at home to establish breastfeeding without unsolicited negative comments from visitors about their feeding plan, which was also echoed in previous UK research [24]. The lack of interference gave mothers the confidence to feed according to their own desires and not of those around them. This theme was not reflected among the Canadian mothers. It is possible that this theme is present in Canada, but just was not mentioned in this particular sample of mothers. Alternatively, this may reflect different levels of knowledge and attitudes towards breastfeeding in the UK compared to Canada. A study that examined 805 comments about news articles on breastfeeding in public from 13 different outlets in the UK found that overall 35% of comments were supportive of breastfeeding in public, while the other 65% stated breastfeeding in public should be done with discretion or not at all [32]. In contrast, in Canada, a survey of 1276 participants from the general

population indicated that 75% were supportive of public breastfeeding [33]. These findings provide a high-level comparison of differences in attitudes towards public breastfeeding, indicating that breastfeeding may be more generally supported in Canada compared to the UK.

Overall, the findings from this study largely align with previous international research that has explored mothers' experiences with breastfeeding during the pandemic [20,24,26,27,48,60,61]. While diminished professional and peer supports amplified breastfeeding challenges for many mothers, positive experiences, such as more time to focus on breastfeeding without distractions were also identified. This study highlights the need to protect social and professional breastfeeding supports in the midst of a global pandemic in both Canada and the UK.

### Strengths and limitations

This the first study to sample only first-time mothers to understand their unique experiences of breastfeeding in the pandemic. Previous research has included both primiparous and multiparous mothers, but not conducted thematic analysis specific to first-time mothers [24,48,62]. First-time mothers do not have previous infant feeding experiences to draw on and may not be aware of available supports [28]; therefore, focusing on this population is a research priority. The themes constructed from this analysis are similar to other studies including multiparous mothers, indicating some shared experiences among mothers regardless of parity [20,24,26,48]. This study also adds to the literature by comparing experiences of mothers in two different countries to identify experiences that were shared across borders and highlight differences that can be used for learning to improve breastfeeding supports in either country. Learnings from the current study include the importance of no unsolicited advice while breastfeeding that could be promoted in the UK and the benefit of well-established online breastfeeding support that could be promoted in Canada. This study also has limitations. First, there are challenges associated with directly comparing experiences between Canada and the UK because the state of the pandemic in these respective countries differed at the time of the interviews. However, the interview questions asked mothers to reflect on their experience throughout the pandemic, reporting on previous experiences when both countries experienced periods of strict public health measures such as lockdowns and social distancing. Second, this study used slightly different recruitment strategies for each country, introducing further challenges with comparing experiences. However, the age and education representation from each country was similar, providing confidence in the comparability of these participants. Third, the current study was not designed to be able to compare experiences across levels of socioeconomic status or mental health problems. Previous work has indicated differences in maternal experiences based on these characteristics and this should be considered when interpreting the current findings [20,24]. Finally, this study used the identifiers 'mother' and 'women' in the recruitment materials, likely influencing recruitment to only those who self-identify in these categories. We acknowledge that not all breastfeeding persons identify as 'mothers' or 'women' and that this sample is not representative of all those who feed human milk or breastfeed.

### Conclusion and implications for future

Throughout the COVID-19 pandemic, professional lactation health care providers were re-deployed to other areas, and lockdowns reduced or removed in-person peer and family supports, leaving new mothers without adequate support. While the migration of some types of support to online modalities is beneficial, providing only online care did not meet the needs of new mothers in this study. Likely, a combination of in-person and established online breastfeeding supports would reach and benefit the widest range of mothers. This study also highlighted some benefits resulting from the pandemic, including more time to bond with

baby and feeding without the distraction of visitors. These benefits provide evidence to protect and advocate for guaranteed parental leaves and societal practices that support mothers in their infant feeding choices without providing unsolicited advice. Future research should examine how reduced breastfeeding supports during the pandemic translated into changes in the prevalence of breastfeeding initiation and duration, and infant health outcomes in Canada and the UK. Overall, this study highlights the need to protect and promote social and professional breastfeeding supports during a global emergency and to extend or improve current support modalities to benefit more mothers in a post-pandemic world.

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