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Research

The socioemotional impact of the COVID-19 pandemic on pregnant and postpartum people: a qualitative study

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Abstract

Background: The social isolation and safety measures imposed during the COVID-19 pandemic differentially burdened pregnant and postpartum people, disrupting health care and social support systems. We sought to understand the experiences of people navigating pre- and postnatal care, from pregnancy through to the early postpartum period, during the pandemic.

Methods: In this qualitative investigation, we conducted semistructured interviews with people residing in British Columbia and Alberta, Canada, during the second half of pregnancy and again at 4–6 weeks' post partum between June 2020 and July 2021. Interviews were conducted remotely (via Zoom or telephone) and focused on the impact of the COVID-19 pandemic on pre- and postnatal care, birth and labour planning, and the birthing experience. We used content and thematic analysis to analyze the data, and checked patterns using NVivo.

Results: We interviewed 19 people during the second half of pregnancy and 18 of these people at 4–6 weeks' post partum. We identified 7 themes/subthemes describing how the COVID-19 pandemic affected their experiences: disrupted support systems, isolation, disrupted health care experiences (pre- and postnatal care, and labour and birth/hospital protocols), violated social norms (including typical rituals such as baby showers), impact on mental health and unexpected benefits (such as a no-visitor policy in hospitals after the birth, which provided a quiet period to bond with baby).

Interpretation: Pregnant and postpartum people were uniquely vulnerable during the COVID-19 pandemic and would have benefited from increased access to support in both health care and social settings. Future work should investigate maternal and infant/child functioning and behaviour to assess the long-term impact of the pandemic on Canadian families and developing children, with an aim to increase support where necessary.

Pregnant and postpartum people were uniquely challenged by the COVID-19 pandemic.[1–4] Not only did they need to access health care, they also had to protect themselves and their fetus/newborn from the dangers of COVID-19 amid a high-stakes landscape fraught with uncertainty. Research investigating the mental health impact of COVID-19 on peripartum people suggests that increased anxiety was commonplace[5–7] and that pregnancy-related anxiety increased during the pandemic.[8] Lockdown safety measures were particularly challenging; Ceulemans and colleagues[9] surveyed 5866 women and found significantly increased rates of anxiety and depression. A meta-analysis suggested that rates of postpartum depression also increased during the pandemic.[10]

Impaired mental health during pregnancy not only affects maternal functioning but is also linked to fetal health and child outcomes.[11] An emerging body of research suggests that maternal health during pregnancy is associated with fetal brain development.[12] Lu and colleagues[13] found that COVID-19-induced anxiety and stress negatively affected fetal brain development, and Manning and colleagues[14] reported that worsening of maternal mental health during the COVID-19 pandemic, especially related to a lack of social support, may explain impaired brain structure and function in 3-month-old infants. Research also suggests that the impact of impaired mental health during pregnancy is associated with a range of child outcomes years later.[15] In a longitudinal investigation, Provenzi and colleagues[16] showed that increased maternal stress during the prenatal period, paired with low levels of support in the postpartum period, was associated with decreased infant regulation at 3 months post partum. Duguay and colleagues[17] found that maternal mental health and well-being during the COVID-19 pandemic, especially poor postnatal mental health, were associated with impaired socioemotional development during infancy.

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Given the major challenges associated with the COVID-19 pandemic, and that stress may impair maternal and child functioning, we conducted a study to investigate how the pandemic affected the experiences of pregnant people in general, and how it affected birth preparation and planning behaviours, and pre- and postnatal care experiences.

Methods

Study design

We conducted a qualitative investigation supported by a phenomenologic philosophy with thematic and content analytical methods to better understand the birthing behaviours and experiences of Canadians during the COVID-19 pandemic (Appendix 1, Qualitative framework, available at www.cmajopen.ca/content/11/4/E716/suppl/DC1). We sought to understand the essential experiences of people navigating the birth of a child during a global pandemic. The evolving nature of the COVID-19 pandemic was best captured by continued reflection by the researchers and with vigilance for personal biases and preconceptions. We conducted 2 sessions (1 while participants were in the second half of pregnancy and the other in the early postpartum period) to explore how the pandemic affected the experiences of pregnant and postpartum people in these periods. In reporting our work, we followed the Consolidated Criteria for Reporting Qualitative Research (COREQ).[18]

Setting

Study sessions took place from June 2020 to July 2021. Canada experienced 2 waves of COVID-19 during this time frame (in September 2020 and March 2021). A variety of safety measures, such as requirements to wear protective face masks and show proof of vaccination, along with limits on gatherings and on interprovincial and international travel, were implemented in the provinces of Alberta and British Columbia. Evolving safety measures were also implemented in health care settings as hospitals adjusted their visitor guidelines and policies. Uncertainty around safety measures was especially problematic for pregnant and postpartum people, as these limits directly affected birth planning and support.

Participants

We recruited a convenience sample from June 2020 to February 2021 using a variety of remote methods, including posting recruitment posters at local clinics and cafes in Nanaimo, BC, in the Vancouver Island University Community Newsletter and on social media (Facebook [now Meta Platforms] and Instagram) (Appendix 2, available at www.cmajopen.ca/content/11/4/E716/suppl/DC1). Inclusion criteria were broad, and recruitment aimed to include people in the second half of their pregnancy who were residing in Canada. Facebook and Instagram advertisements were targeted toward women residing in Canada. Some participants were recruited by word of mouth and so had prior knowledge of M.V.M. M.V.M. had met 1 of the participants before their participation in the study. Participants' names were entered into a draw to win a $100 gift card, and 1 name was drawn in both of the 2 sessions.

We targeted an initial sample size of 12 participants based on the work of Boddy.[19] However, given the evolving nature of the COVID-19 pandemic during the study period, we deemed 12 to be insufficient and continued recruiting until saturation was reached. Two additional potential participants contacted us after saturation, and we decided to include these participants, as safety measures were still evolving at that time.

Data collection

Pregnancy session interviews took place from June 2020 to April 2021, and postpartum session interviews took place from August 2020 to July 2021. We collected limited demographic information, eliciting only age, marital status and parity. To adhere to COVID-19 protocols, all study data were collected remotely. Participants could choose to participate via Zoom or telephone. When participants chose Zoom, their interviews were recorded via the Zoom platform. Telephone interviews were recorded directly onto the researcher's laptop computer.

M.V.M., who is a mother as well as a research psychologist with experience conducting research with pregnant and postpartum people, developed the interview guide and conducted the majority of the interviews; 3 interviews were conducted by J.F. The semistructured interview guide was developed after review of academic and media accounts of pregnant and postpartum people's experiences during the COVID-19 pandemic. The interview guide was developed without team consensus, and the questions were not piloted. The guide was by design simple and straightforward (Appendix 3, available at www.cmajopen.ca/content/11/4/E716/suppl/DC1).

Notes were taken during and immediately after the interviews. These notes primarily highlighted especially representative quotes or comments. The interviews were transcribed manually by the research team.

Written consent was obtained before the pregnancy session, and verbal consent was obtained before the postpartum session.

Data analysis

Six coders (M.V.M., E.J.-E.F., J.F. and 3 research assistants) worked in teams of at least 2 to code the interviews using thematic and content analysis. Each coder created their own code summary sheet, after which the coders came together to discuss specific codes and to collaborate in order to reach consensus (Appendix 1, Example of the coding process). To promote trustworthiness, 1 of the 2 team leaders (E.J.-E.F. and M.V.M.) led these discussions, and all team members tracked their decision-making processes for auditability.[20] We ensured that each step of the process was reflexive and collaborative; themes evolved as the study continued. E.J.-E.F. and M.V.M came to consensus on the final themes (Appendix 1, Aspects of qualitative rigour). We imported the finalized coded interviews into NVivo to evaluate the accuracy of our categories and themes. Participants were given the option of reviewing the transcriptions, but no participants opted to do so, nor did they provide feedback on the findings.

Ethics approval

The Vancouver Island University Research Ethics Board approved this study (no. 100647).

Results

Semistructured interviews were conducted with 19 participants during the second half of pregnancy (mean 29.52 wk, range 17–39 wk) and with 18 participants at about 4–6 weeks post partum (mean 5.94 wk, range 2–21 wk). One participant did not continue, as she was busy with her baby. We were contacted by 1 person living outside of Canada and 1 Canadian living abroad; these participants were excluded as they did not meet the inclusion criteria. Participant demographic characteristics are presented in Table 1.

Interviews took, on average, 30 minutes.

Seven themes/subthemes emerged regarding how the COVID-19 pandemic affected support in the health care and social domains, as well as resiliency, adaptability and vulnerability in caring for a newborn during the pandemic: disrupted support systems, isolation, disrupted health care experiences (pre- and postnatal care, and labour and birth/hospital protocols), violated social norms (including typical rituals such as baby showers), impact on mental health and unexpected benefits.

Disrupted support systems

Both pregnant and postpartum participants experienced reduced support at all levels: health care, family, friends and communities. This occurred for a variety of reasons, including travel safety measures, which limited family members' ability to attend the birth, and safety measures regarding gathering in the community. In many cases, participants were not able to bring anyone to their prenatal appointments, including their husbands/partners, owing to COVID-19 safety guidelines.

Table 1: Participants' demographic characteristics

Characteristic	No. (%) of participants *n* = 19*
Age, mean ± SD, yr	32.94 ± 5.24
Age range, yr	23–41
Marital status	
Married	14 (74)
Common-law	4 (21)
Single	1 (5)
Parity	
Primiparous	8 (42)
Multiparous	11 (58)
Province	
British Columbia	17 (90)
Alberta	2 (10)
Means of recruitment	
Word of mouth	4 (21)
Social media	12 (63)
Local clinic	3 (16)

*Except where noted otherwise.

Many participants communicated empathy over their partner's disconnected experience. In addition, relaying health care information to their partners was often challenging. Many participants were especially worried about whether the baby's father would be permitted inside the hospital and whether they would have to give birth alone (Table 2, quotations 1–3).

Travel safety measures imposed by governments around the world in response to the pandemic disrupted the participation of key support people. For example, some participants described how their mother or sister might not be able to attend (Table 2, quotation 4). Many participants reported collaborating with their family to practise quarantining before family members visited the baby. The changing safety measures at the provincial, national and global levels increased stress and anxiety.

Isolation

Social isolation resulting from COVID-19 safety measures was a common thread throughout the pre- and postnatal interviews. Many prenatal support groups were cancelled or converted to online platforms. Participants missed the connection, support and knowledge they would have obtained from taking part in prenatal groups. Online classes were useful in terms of increasing knowledge, but the format is not conducive to relationship-building. Similarly, many postpartum participants discussed a sense of missing the shared experiences with other new mothers, as they were not able to access programs such as Strong Start or postnatal yoga. For many participants, postpartum isolation embodied a strong sense of grief and loss (Table 2, quotations 5–8).

The typical loneliness associated with the early postpartum period[21] was considerably worsened during the pandemic. A lack of postnatal programs, social safety measures and distancing, and, perhaps most poignantly, intrafamilial conflict led to prolonged and extensive social disconnect. Participants' adherence to safety measures and keeping their social "bubble" small resulted in fractured community ties and feelings of isolation (Table 2, quotations 9 and 10). In speaking about wanting to keep her infant safe from infection, 1 participant described a particularly challenging experience with her father (Table 2, quotation 11).

The pandemic even complicated everyday tasks. Many participants discussed feeling judged for their pregnancy while out grocery shopping, which exacerbated the sense of disconnect (Table 2, quotation 12).

Disrupted health care experiences

Pre- and postnatal care

Participants commonly reported fewer prenatal appointments, remote prenatal appointments, or both.[8,22] Participants described the infrequency of appointments and lack of face-to-face meetings as impairing the development of the relationship with their health care team. Although some participants reported that the virtual meetings were convenient, this format did not work for everyone and, in some cases, may have limited participants' ability to speak freely (Table 2, quotations 13 and 14).

Table 2 (part 1 of 3): Themes and illustrative quotations

Theme; subtheme	Quotation no.	Illustrative quotation
Disrupted support systems	1	I really only want my husband to be there, but as of right now, they're not really sure if that's going to be happening … just because of how overloaded they are with that one hospital shutting down. … So that would be kind of hard for me. (P04, primiparous, 36 wk)
	2	For the 20-week [ultrasonography examination, my partner] had to wait in the parking lot of a hospital … which he said was quite a lonely feeling. And … for someone who's had a miscarriage, doing the ultrasound is always a little scary. … So having to do that by myself was not fun. (P13, multiparous, 24 wk)
	3	Everything was by myself, until the very end. So that was kind of shitty, too, just not to be able to have that support there. (P15, multiparous, 8 wk post partum)
	4	There was just so much stigma still … like [my mother] coming from out of province, and she didn't even know like weeks up to the birth if she could even come, because they hadn't loosened the safety measures yet. … So thankfully, they did just before the birth. … She ended up staying in an Airbnb because … she took a [COVID-19] test when she arrived and then she waited, I think, 24, 48 hours, and took another test just because she said she would never forgive herself if she ever brought anything near to me and the kids. (P19, multiparous, 5 wk post partum)
Isolation	5	I did prenatal yoga with my first-born from basically … 3 months' pregnant until the week before I had her, and that's where I met a lot of the core women that I'm still in touch with now. You know, where you make those networks. And … so I feel like this baby is sort of missing out on … my emotional well-being during that process, because this time I don't really have that. (P06, multiparous, 32 wk)
	6	In the past week or so, it's been getting a little bit more like feeling isolated, especially with … the gathering safety measures and all of that increasing. … I'm starting to feel the effects of that a little bit, and … now that I've had my baby for a while, it's just starting to feel that like Groundhog Day [movie] or every day, it's like, wake up, feed, stay at home … change diapers and then do it all over again the next day. … So yeah … I'm starting to feel the effects of that a little bit more in the past couple weeks. (P11, primiparous, 6 wk post partum)
	7	It's really been terrible. I think my mental health would definitely be better if I could go out and go to the mall or … I know a ton of people who have just had babies, so if we could do … mom groups and stuff like that. … There is definitely a lot more that I would be doing if COVID wasn't a thing. (P05, primiparous, 5 wk post partum)
	8	I'm missing … the newborn baby socialization that I had with my prenatal group before with my oldest, but also … there is no socialization at all … there's nothing really to do with your newborn baby right now. … But … you're not doing things, you're not seeing people, people aren't coming to your house. … It would be really, really hard if you're alone a lot. (P09, multiparous, 3 wk post partum)
	9	I feel like I'm totally invisible. I posted something yesterday on Facebook, and I had a picture of my belly at the top. The comments were like, "Oh, wow! You're pregnant!" It's been kind of a weird, invisible pregnancy. (P13, multiparous, 24 wk)
	10	A really interesting challenge within our family was the amount of people who were like, "We're going to come see the baby." And we're like, "We don't want you to." And people were … pretty insulted by that. So it caused a bit of rifts in some of our family because we were like, "Please don't come — we will FaceTime you." (P09, multiparous, 3 wk post partum)
	11	I was like, "Well, you can't come over now." And he's like, "No, no, no, no. I don't know, what you are talking about. You're overreacting." And he came anyway. And we had to … physically remove him from our house, be like, "No, you're not coming in." And he came in anyway. And I stood back and my husband was like, "You have to leave, you have to leave." And … oh my God, it was so traumatic. We're all like shouting and crying. And my dad had to be … I had to kick my dad out. … It was brutal. It was because he just didn't get it. (P13, multiparous, 7 wk post partum)
	12	I felt like people thought I was murdering my unborn child. … Walking on the street, people just give you this wide berth and this glare, like, "What are you doing outside?" … Since I was at home a lot and I wasn't able to read my books or do very much, I was scrolling through Facebook a lot, and there were these bursts of information and people just shaming other people in our community. … They would take photos or make posts about people that they saw outside or at the grocery store doing something that they felt in their own opinion they shouldn't be doing, and it just made me really anxious to do anything outside, because I thought that someone might find it to be wrong in their eyes and then publicly shame me for it. (P01, multiparous, 38 wk)

Table 2 (part 2 of 3): Themes and illustrative quotations

Theme; subtheme	Quotation no.	Illustrative quotation
Disrupted health care experiences		
Pre- and postnatal care	13	Definitely the whole Zoom? I mean, birth is one of the most intimate moments in your life, it would have been nice to have all of our meetings in person, to build that rapport and that level of comfort, and get to know somebody. … So I think there definitely was a loss there. (P15, multiparous, 8 wk post partum)
	14	I remember one phone call, I just took it on my coffee break and so I literally took it at work, and there's all these coworkers that are streaming by, and I'm … barely pregnant and I don't really want everybody to know about it yet, so I'm trying to use code words almost? And it's the same thing. … Even if I'm sitting at home, and my husband or my kids are here, it's hard for me to say … "Well, I'm feeling really shitty." … And then you know that your spouse or your kids are hearing this and they're going, "Oh, what's going on with mommy?" … It is a very different experience, having a medical or a medical consultation in a nonmedical setting. (P13, multiparous, 24 wk)
	15	I saw [the nurses] in the hospital, they came and saw me, but then we got home, and … I guess like the second day after we got home, [a midwife] came and … checked me … looked at my stitches and stuff like that, and we weighed [the baby], and then after that she left us a scale and said "Can you weigh him every second day for the next few days just to make sure he is gaining?" … And other than that, they said, "If you have any questions or concerns, call us," but there's no … meetings or stuff with them unless I have an issue or a problem. (P09, primiparous, 3 wk post partum)
	16	Even my in-person appointments … I'm the only person in the waiting room … usually they stagger appointments. Whereas my first time around, there would maybe be another pregnant mom … and it's like … you have that identification. "How far along are you?" … and "Do you know what you're having?" And so it's kind of isolating sitting in the waiting room all alone. (P19, multiparous, 29 wk)
Labour and birth/ hospital protocols	17	My contractions were … 2 minutes apart already, and my water had just broke. And then we got [to the hospital], and they're asking me all these COVID screening questions, and 2 different people had to ask me all these questions. I was getting so mad, I was yelling at … everybody … I'm like, "Who cares if I have left the country within the last 14 days, you're going to let me in to have this baby or else I'm having it in the waiting room," like why does it matter at that point? (P05, primiparous, 5 wk post partum)
	18	Because my water had [been] broken for so long, I was starting to develop a fever, and … that's a symptom of COVID-19, so everybody had to … put on PPE, and they came in and gave me a COVID-19 test in the middle of me trying to push, and blood tests and blood cultures and everything, and I think that was all because I was getting a fever. … So there was a lot of extra stuff they had to do. Even the nurse was apologizing for the COVID-19 test up my nose, because everybody sort of knew [the fever] was labour-related, but they had to do all that because of … the procedures, which I understand is to be safe. (P11, primiparous, 6 wk post partum)
	19	I was having to wear a mask in full labour, I could barely breathe. And I'm like, "Ahhhh! Can I take this thing off?" … I was struggling with the contractions and everything, and then just having the stuffiness of having to wear a mask — that sucked. (P19, multiparous, 5 wk post partum)
	20	You're basically locked in your room. You can't leave. … That feels something crazy. I was … claustrophobic. I needed to leave. I was … desperate to leave. I mean, [I] had a big room with … a beautiful view and everything. But I was, like, "I need to leave this room." You couldn't even leave to go get the nurse, you had to buzz for the nurse … and it definitely wasn't the nurses' fault. They were understaffed and had a crazy amount of babies. And they have to do everything because you can't leave your room. … We couldn't go get more diapers. We couldn't go when we needed pain medication, we had to buzz them and be like, "I'm up for my pain medication," and they would be like, "Oh, right." And then they had to run back and it's a whole thing. Everything took forever because we couldn't leave the room. (P09, multiparous, 3 wk post partum)
	21	[My husband] and I would meet outside the elevators and talk about the parking, so whoever was not visiting at that point would go wait in the car, and then one of the nurses had mentioned to us … "I don't know if you realize, but everything that you're seeing in the media is happening right behind here and on this level." … After that, I was just very nervous, I guess, of taking something into the NICU. (P12, nulliparous, 4 wk post partum)

Table 2 (part 3 of 3): Themes and illustrative quotations

Theme; subtheme	Quotation no.	Illustrative quotation
Violated social norms	22	[It] felt like the world was ending a little bit, and meanwhile, I'm pregnant, which … felt very selfish, and it didn't feel great to be pregnant, actually. So it took that … excitement that you experience when you're newly pregnant away from my experience, and it was actually just a lot of stress for both me and my husband. (P19, multiparous, 29 wk)
	23	I do still want to have a get-together. That being said, how many people are going to be comfortable coming over? I don't know. … Are people going to be very distant when they come over? … It creates this atmosphere of awkwardness, and you're kind of not too sure how close someone wants to get to you or if someone want to holds your baby or how close you should get to someone. There's just so many variables and unknowns that you just kind of feel like, "Maybe we shouldn't see anyone" because we just don't know. (P01, multiparous, 38 wk)
	24	You can't have a baby shower, you can't do all of those things. It's just been so isolating because of the quarantining and all of that. There's been no cooing and coddling about [the baby]. Not that I necessarily want that all the time, but it kind of takes away a special part about it. (P04, primiparous, 39 wk)
Mental health impact	25	Definitely I think more the stress was financial and just trying to restructure my plans and what I'll do when I'm off and that kind of stuff. … Because we just bought a house in January, which is so funny. … You plan so much … there's a pandemic, and you wouldn't have thought of that, and we're both … basically off work for … 2 months. (P02, primiparous, 30 wk)
	26	I think as [the pandemic] goes on, I'm feeling more uncertain about the economy more than people's health. … I'm starting to see more and more businesses shuttered in town, and it's just like … as people lose their businesses and they're going to end up losing their houses, it's just going to have this crazy ripple-down effect. (P13, multiparous, 24 wk)
	27	I think the COVID-19 stuff more affected me when I was working, and … I was just very aware that I was pregnant, had gestational diabetes and now hypertension, and … I was very much at risk if I was exposed to COVID-19, so that stress … definitely affected me … I was having nightmares about it. (P15, multiparous, 8 wk post partum)
	28	Before, I was just worried about myself getting [COVID-19] while I was pregnant … but still wasn't too worried about it. But now, having … a little tiny human to worry about. … I worry about everything, but especially her getting COVID-19. (P07, primiparous, 5 wk post partum)
	29	My … primary fear would be they would have to take the baby away at the hospital, that's the thing that I fear the most. If I were sick or if I tested positive and then I couldn't hold her and … have that physical part of it, that's the thing I think about the most and would fear the most. (P07, multiparous, 32 wk)
	30	My fear was that my kids are going to grow up in a world where you have to wear masks, you can't touch people or hug, or you can't even go play anymore. … And so I'm so glad that things are loosening up. (P19, multiparous, 5 wk post partum)
	31	In the beginning, [COVID-19] seemed like more of an unknown thing, and we were all kind of just watching what was going to happen, but generally I wouldn't say I'm an anxious person, so … I wasn't very stressed about it to begin with. I'm happy to just follow the rules and … do what we're supposed to do, but I don't feel like it's a stress or worry for me. And I think … even now that it's been around for a while, it just becomes — I don't really worry about it right now. (P17, multiparous, 32 wk)
	32	I think everyone is kind of used to the protocols. It's … maybe not as kind of scary, because we're all exposed to it. (P16, primiparous, 25 wk)
Unexpected benefits	33	One other thing about this pandemic, I think it's important, it's made us really grateful for what we have. We bought a tiny duplex that was cheap 7 years ago, and we've been trying to get out of it and get [something] bigger and grumbling about I'll be bigger and … I'm so, so grateful that it's within our budget, and we're not being affected by the economic collapse and … losing our home. (P13, multiparous, 24 wk)
	34	While we were at the hospital, we weren't allowed any visitors. … On the one hand, that is kind of disappointing, and I know there are so many friends and family who would have loved to come visit us. At the same time, I feel like it gave us an opportunity to just really bond as a family. … We had just some really good quiet time over those 2 days in the hospital. (P06, primiparous, 6 wk post partum)

Note: NICU = neonatal intensive care unit, PPE = personal protective equipment.

Some participants noted that they were taking their own measurements and performing self-checkups. Not receiving feedback, updates or reassurance on the progression of their pregnancy was stressful. Fewer or remote appointments continued through the postpartum period. This left a few participants who were recovering from the birth (e.g., cesarian delivery) with limited supervision. For example, 1 participant was given a baby scale and told to weigh the baby themselves (Table 2, quotation 15). Some participants reported that the pandemic-induced changes contributed to an overall sense of isolation (Table 2, quotation 16). Many participants expressed concern and sadness for first-time mothers.

Labour and birth/hospital protocols

The pandemic coloured all aspects of labour and birth. The hospital safety protocols were described by most participants as frustrating, repetitive and time-consuming (Table 2, quotation 17). For example, 1 participant ended up late for her scheduled cesarian delivery as she had to wait in line to be screened, and another was subjected to COVID-19-related protocols while in active labour (Table 2, quotations 18 and 19).

Although the importance of social supports during labour and birth were recognized early in the pandemic,[23] many hospitals limited the support to 1 person. Consequently, some participants were put in the difficult position of needing to choose among their husband, mother, sibling and doula. As the positive impact of doulas on birthing experiences and on both maternal and infant outcomes has been documented,[24,25] choosing husband/partner over doula may have resulted in longer and more complicated birthing experiences.

Many participants noted that, once they were in their room at the hospital, they were not allowed to leave. The participants' partners were allowed to come and go only once per day. Being stuck in a hospital room after birth was described as a negative experience (Table 2, quotation 20).

Participants who experienced complications were especially vulnerable, as the COVID-19 safety measures often limited support when it was needed most. For example, 1 participant's family was not able to fly in to visit, nor were her friends able to provide in-person support; she spent the holidays alone in an apartment near the neonatal intensive care unit. She described the safety measures for accessing the unit as both necessary and challenging: for instance, only 1 person was allowed to visit at a time, which meant that new parents could not spend time together with their infant (Table 2, quotation 21). Complications during pregnancy and the postpartum period heightened COVID-19-induced isolation and increased maternal stress.

Violated social norms

Participants shared how bringing a child into the world during a global pandemic was an uncomfortable experience (Table 2, quotation 22). One participant observed that there was "a decreased feeling of specialness" around pregnancy. Social events such as baby showers were complicated and often marked by perceived stigma. One participant reported that her baby shower was met with resistance from friends and family. Some participants transferred their baby showers online and found creative ways to connect, whereas others talked about disappointment and disconnect (Table 2, quotations 23 and 24).

Impact on mental health

Many participants expressed worries about health, vaccines and their baby's development during and after the pandemic. Financial concerns were also reported: participants shared how being forced to take time off work because of COVID-19 set them in a financial deficit, and some discussed uncertainties around receiving the Canadian Emergency Response Benefit, employment insurance or maternity leave (Table 2, quotations 25 and 26).

Worries about COVID-19 in general, the risk of infection and how COVID-19 would affect the development of their child were common (Table 2, quotations 27–29). Concerns included the impact of lack of socialization and use of masks on social development (Table 2, quotation 30), as well as the affect of extensive use of sanitizing measures and masks on the immune system.

There was a definite shift in tone, from uncertainty and anxiety, toward apathy and weariness, from earlier as opposed to later in the pandemic (Table 2, quotations 31 and 32).

Unexpected benefits

Despite the extensive negative impact of the COVID-19 pandemic, there were unexpected benefits. For example, lockdown measures forced participants to take time off work, spend time with their partner, engage in self-care and rest. Many participants reported that the no-visitor policy at the hospital provided an opportunity to recover and connect with their baby after the birth (Table 2, quotations 33 and 34).

Interpretation

This study shows that the impact of the COVID-19 pandemic on pregnant and postpartum people may be understood as an accumulation of losses and unmet expectations, with both major stressors, such as reduced health care and support, and minor stressors, such as cancelled baby showers. Our results support past research suggesting that public health policies designed to reduce the spread of SARS-CoV-2 had especially negative consequences for pregnant and postpartum people[1–9,26,27] and that the isolation and social disconnect (from family, friends, health care and community) were the primary drivers of the negative impacts. Our findings support existing research suggesting that this isolation had a negative impact on mental health.[28]

We found that, although pregnant people were faced with many challenges during the pandemic, including economic uncertainty and fewer health care appointments, the most pressing and commonly reported concerns centred around the logistics of the birth itself. In keeping with previous studies,[26,27] whether their partner/husband could be present was a pervasive concern for our participants. People who opted for a home birth were not insulated, as the home

health care team also limited who could be present. Our findings support previous research suggesting that the safety measures around limiting support people increased stress.[26,27] Families who experienced complications were especially vulnerable,[26] as the COVID-19 safety measures often limited support when it was needed most. In future pandemics, special exceptions in the health care setting for pregnancy and birth that allow for the presence of at least 2 support people should be considered, given the bulk of evidence showing negative outcomes associated with stress for pregnant people in terms of decreased mental health[4–11] and negative impact on the developing fetus.[12–16] However, many participants reported that the no-visitor policy at the hospital provided an opportunity to connect with their baby after the birth. Past research suggests that limiting visitors may, in some cases, facilitate bonding between the newborn and the parents.[26,27,29]

Our results support previous research suggesting that financial concerns were important considerations.[30] Our findings are also in keeping those of Cameron and colleagues,[31] who suggested that households with fewer resources were more negatively affected by financial strain. Special financial aid for pregnant people and their families may reduce stress and improve outcomes during a pandemic.

Our findings highlight how the challenges posed by the COVID-19 pandemic changed from pregnancy to the postpartum period. Whereas the issues reported during pregnancy were largely uniform, tangible and concrete (for example, who can attend the birth? Where, and with whom, will my older child(ren) be?), isolation was the dominant challenge in the postpartum period. Paradoxically, in the case of obstetric complications, COVID-19 was at once irrelevant — as in the case of 1 new mother who reported that she had been concentrating on her baby and recovery, and had not thought about COVID-19 at all — to COVID-19's becoming paramount, as in the case of a family for whom the safety measures coloured each interaction with their infant. Worry and guilt over their infant's isolation were common, and keeping the baby safe from exposure to COVID-19 was a major concern, which, in some cases, was a dramatic shift in perspective from the pregnancy sessions and, in others, caused conflict that increased the sense of isolation.

To support postpartum people and their newborn, we are faced with a difficult challenge: how do we keep the mother and newborn safe from infection while providing space for in-person connections that would mitigate the negative mental health impact of isolation? Creative solutions such as the use of wearables (e.g., hats, backpacks) to ensure physical distancing,[32–33] the use of a mix of remote, virtual reality and face-to-face delivery methods,[34] and the careful use of screening protocols and barriers[35] were found in education and workplace settings during the pandemic. Using these strategies in the early postpartum period could help to support new mothers and their families. Given that we interviewed participants during the second half of pregnancy and again in the early postpartum period, our findings may also inform strategies during future pandemics.

Limitations

As our small sample showed considerable individual variation in the impact of the COVID-19 pandemic, it is difficult to gauge the transferability of our results. The fact that the interview guide was not piloted and was developed independently by 1 investigator may limit its construct validity and further limit the interpretability of our findings. We noted that sessions later in the postpartum period were marked by a greater sense of isolation; earlier sessions often focused on healing and care of the baby. A third postpartum session (at 4–6 mo post partum) may have more accurately captured how the pandemic increased the isolation of postpartum people. Finally, there is the potential for social desirability bias: although M.V.M. informed participants that there were no right or wrong answers, and that the study was seeking to understand their experience, participants may have been influenced in their answers or unconsciously influenced by the interviewer.

Conclusion

Given the high stakes of maternal mental and physical health during the peripartum period, especially in terms of later infant and child functioning, providing sufficient support to pregnant and postpartum people during times of social upheaval such as the COVID-19 pandemic should be considered an urgent priority. Strategies to increase support in health care and social settings, especially during the postpartum period, would have eased the burden of the COVID-19-induced isolation and stress. Future studies should investigate the long-term impact of the COVID-19 pandemic on child and family outcomes.

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