

## Women's experiences of skin-to-skin cesarean birth compared to standard cesarean birth: a qualitative study

Clea A. Machold MJ MD, Susan E. O'Rinn BA, William H. McKellin PhD, Gillian Ballantyne BScN RN, Jon F.R. Barrett MD

### Abstract

**Background:** Skin-to-skin contact between mother and infant immediately after birth is recommended regardless of delivery method; however, it is less common after cesarean delivery. We aimed to describe and compare women's experiences of cesarean birth with and without skin-to-skin contact at an urban tertiary care hospital.

**Methods:** In this hermeneutic phenomenologic study, we used semistructured telephone interviews from 2015 to 2018 to interview a convenience sample of women who delivered at term by scheduled skin-to-skin cesarean birth at an urban tertiary care hospital in Toronto, Ontario. Women were invited to participate if they had had a previous planned or unplanned cesarean birth and a scheduled skin-to-skin cesarean birth between 2013 and 2017. Participants were excluded if they had antenatally diagnosed conditions, they delivered before 37 weeks, they had general anesthesia, their condition was unstable at the time of surgery, a skin-to-skin cesarean birth was not possible or they declined skin-to-skin cesarean birth. Interviews were recorded, transcribed and analyzed by means of thematic analysis.

**Results:** Ten women were interviewed 1–19 months postpartum. Four central themes emerged: support for skin-to-skin cesarean birth (women feeling supported by their families and health care providers); control (participants experiencing greater control during their skin-to-skin cesarean birth); connection with the infant, which enabled women to be active participants in their delivery, enhanced bonding and intimacy, facilitated breastfeeding and bolstered confidence during early parenthood; and logistic considerations, with participants recognizing that skin-to-skin cesarean birth required additional resources.

**Interpretation:** These findings refine what is known about skin-to-skin cesarean birth and provide a critical perspective, that of mothers. They support the transformation of traditional operating room dynamics to a more patient-centred environment.

Skin-to-skin contact between mother and infant immediately after birth is recognized globally as an evidence-based best practice<sup>1</sup> that fosters intimate contact during a neurobiologically sensitive period implicated in future maternal–infant physiology and behaviour.<sup>2</sup> Understanding the importance of this crucial time on outcomes for mothers and infants, the World Health Organization (WHO) recommends immediate skin-to-skin contact at the time of birth regardless of delivery method, except when separation is medically necessary.<sup>3</sup>

Despite this evidence-based recommendation, mothers and infants may be separated at birth, often without medical indications. In Canada, skin-to-skin contact within the WHO's recommended time frame is achieved in less than 50% of deliveries.<sup>4,5</sup> For mothers, skin-to-skin contact is a low-risk, cost-effective intervention that increases initiation, duration and effectiveness of breastfeeding,<sup>6–8</sup> with some research suggesting that longer skin-to-skin contact increases the odds of breastfeeding at 3 months.<sup>9</sup> Skin-to-skin contact may prevent or reduce the severity of postpartum depression,<sup>10,11</sup> shorten placenta delivery time,<sup>12</sup> increase responsiveness to infant cues

and enhance bonding.<sup>13,14</sup> For infants, skin-to-skin contact is the ideal environment for transition to the outside world<sup>2,15,16</sup> and, if implemented immediately after birth, enables greater central nervous system control,<sup>17</sup> cardiorespiratory stability,<sup>2</sup> thermoregulation<sup>18,19</sup> and stress hormone levels.<sup>13</sup> Infants who experience skin-to-skin contact are also easier to soothe during painful procedures.<sup>20,21</sup>

In Canada, about one-third of births take place in the operating room via cesarean delivery.<sup>22</sup> Despite a push to increase skin-to-skin contact after cesarean birth (skin-to-skin cesarean birth),<sup>23–25</sup> such births are the exception rather than the norm, since translating this knowledge into routine practice for scheduled cesarean births has been challenging. One

**Competing interests:** None declared.

This article has been peer reviewed.

**Correspondence to:** Clea Machold, cmachold@gmail.com

**CMAJ Open 2021 August 31. DOI:10.9778/cmajo.20200079**

concern is contamination of the sterile field and the risk of increased surgical site infections; however, a study of infection rates after skin-to-skin cesarean birth showed no increased risks,<sup>26</sup> and new surgical drapes are designed specifically to facilitate skin-to-skin cesarean birth without contamination of the sterile field.<sup>27</sup> There has also been criticism around referring to major surgery as a “natural” procedure.<sup>28</sup> However, evidence suggests that, from the patient’s perspective, skin-to-skin cesarean birth enhances the maternal experience of an uncomplicated cesarean birth<sup>23,29</sup> by offering a family-centred option<sup>30,31</sup> that gives birth back to women and babies.

In addition to these well-documented barriers, other practical concerns that may complicate the provision of skin-to-skin contact after cesarean birth include the lack of a standardized protocol,<sup>32</sup> nursing staff availability,<sup>33</sup> maternal or neonatal instability,<sup>34</sup> type of anesthetic,<sup>35</sup> support from anesthesia,<sup>35</sup> clinician education,<sup>32</sup> and the challenge of practice and behaviour changes in a busy clinical environment.<sup>25</sup>

This study’s purpose was to describe maternal experiences of cesarean birth with and without skin-to-skin contact at an urban tertiary care hospital. A better understanding of such experiences will be critical when deciding to implement skin-to-skin contact after cesarean birth whenever safely possible.

## Methods

### Study design and setting

We conducted a hermeneutic phenomenologic study using semistructured telephone interviews to identify and describe common themes from women’s experiences of cesarean birth with and without skin-to-skin contact at Sunnybrook Health Sciences Centre, an urban tertiary care hospital in Toronto, Ontario.

We chose phenomenology as the study design because its goal is to understand the essence of social phenomena from those with lived experience.<sup>36</sup> This study used a hermeneutic approach, as described by van Manen,<sup>37</sup> to phenomenologic inquiry since this allowed for the construction of multiple realities,<sup>38</sup> which was particularly salient as mothers may have had very different experiences with their earlier, non-skin-to-skin cesarean deliveries.

The study team consisted of a family physician (C.A.M.) with a special interest in the skin-to-skin cesarean birth technique, a research manager (S.E.O.) with substantial skin-to-skin research experience, a registered nurse (G.B.) with expertise in Sunnybrook Health Sciences Centre’s policy on the skin-to-skin birth method, a qualitative health research expert (W.H.M.) and the obstetrician-gynecologist (J.F.R.B.) who introduced the skin-to-skin cesarean birth method to Canada.

Reflexivity, defined as self-reflection and self-criticism, is based on the premise that researchers are an active part of the research setting, relationship and interpretations,<sup>39</sup> and, specifically within hermeneutic research, researchers are part of the hermeneutic circle.<sup>40</sup> As such, C.A.M. and S.E.O. continually examined their beliefs, assumptions and motivations, and how these affected their research.<sup>41</sup> For example, C.A.M. was born extremely prematurely via emergency cesarean delivery

and did not experience immediate skin-to-skin contact with her mother. This inspired her master’s thesis,<sup>42</sup> which examined the differences between skin-to-skin and standard cesarean birth. As such, careful consideration of how her experiences came to bear on this study was required. In addition, S.E.O. was involved in several concurrent skin-to-skin research projects, which required constant reflexivity about potential crossover impacts.

### Participants

Inclusion criteria for participation comprised a previous planned or unplanned cesarean birth and a scheduled skin-to-skin cesarean birth between 2013 and 2017 at Sunnybrook Health Sciences Centre. Women with low-risk pregnancies and a scheduled cesarean birth under spinal or epidural anesthesia were asked before or after delivery whether they would be interested in participating. We used a convenience sample,<sup>43</sup> with potential participants introduced to the study by their primary obstetrician (J.F.R.B.) and written consent obtained by the study team. After delivery, participants were excluded if there were antenatally diagnosed conditions such as genetic abnormalities, they delivered before 37 weeks, they had general anesthesia, their condition was unstable at the time of surgery, skin-to-skin cesarean birth was not possible (i.e., the infant required resuscitation) or they declined skin-to-skin cesarean birth.

### Data collection

An interview guide consisting of demographic questions followed by open-ended questions was developed by C.A.M., W.H.M. and J.F.R.B. using the literature list from C.A.M.’s thesis in conjunction with J.F.R.B.’s extensive clinical experience (Appendix 1, available at [www.cmajopen.ca/content/9/3/E834/suppl/DC1](http://www.cmajopen.ca/content/9/3/E834/suppl/DC1)).

Once participant eligibility was confirmed, interviews were conducted by 2 members of the study team (C.A.M., S.E.O.), neither of whom was engaged in the clinical care of the participants. Before each interview, verbal consent was obtained and participants answered demographic questions. Although the interview questionnaire was used as a guide, each interview required a tailored approach dependent on individual responses.

The interviews were recorded digitally, transcribed with identifying information removed and reviewed (C.A.M., S.E.O.) for accuracy.

### Data analysis

The data were analyzed by 2 study team members (C.A.M., S.E.O.) using Braun and Clark’s<sup>44</sup> approach to thematic analysis. First, they familiarized themselves with the data by rereading each transcript and noting preliminary ideas. They then generated initial codes from the transcripts using the participant’s language. The codes were collated into potential themes, which were reviewed and then refined in the context of the overall narrative, after which a final report was produced. Data collection and analysis were iterative and simultaneous. When preliminary codes and themes began to repeat and no novel ideas emerged, it was determined that data saturation had been reached and data collection stopped.<sup>36</sup>

**Data credibility**

We used several strategies to enhance the credibility of the data. First, the researchers were reflexive and reflected on their personal perspectives throughout the study.<sup>45</sup> Second, member checking confirmed that the themes that developed from the analysis showed the broadest range of experiences possible. This was carried out by summarizing the major themes and presenting them back to participants with a request for feedback, clarification and confirmation that their experiences had been conveyed adequately.<sup>36,45</sup> Finally, auditability ensured that the research process and methodology were clearly outlined from the start and that evolving themes were discussed within the research team to ensure consensus.<sup>45</sup>

**Ethics approval**

The Sunnybrook Health Sciences Centre Research Ethics Board approved this study (no. 449-2014).

**Results**

Ten women who met our inclusion criteria participated. Five women who had consented were excluded after delivery (general anesthetic was given in 1 case, and skin-to-skin cesarean birth was impossible in 4 cases). The mean age of the participants was 36.9 (range 30–41) years. Other demographic information is provided in Table 1.

The interviews took place 1–19 months postpartum and lasted 30–109 minutes.

Four central themes emerged from the analysis: support for skin-to-skin cesarean birth, control, connection with the infant and logistic considerations (Table 2).

**Support for skin-to-skin cesarean birth**

All participants reported feeling supported practically and emotionally by their families and the medical team in their decision to pursue a skin-to-skin cesarean delivery and during the birth itself.

**Control**

Participants experienced a shifting locus of control with skin-to-skin cesarean birth compared to standard cesarean delivery. There was a clear sense of empowerment with skin-to-skin cesarean birth, with participants remarking it enabled them to be active members in their delivery and during the first hours of parenting.

This feeling of control in their birth experience also affected participants' sense of self. Almost all participants carried some guilt or shame for having had a cesarean birth, regardless of the indication. Some stated that societal attitudes about cesarean birth hindered their perception of self as mothers. However, this was, in some ways, restored by skin-to-skin cesarean birth, perhaps through their engagement in the procedure or as they comforted their infant on the operating room table. Several participants said that the concept of identifying as a mother through skin-to-skin cesarean birth was important in bolstering their confidence in the early moments of parenthood.

**Table 1: Participant demographic characteristics**

Characteristic	No. of participants* n = 10
Age, mean (range), yr	36.9 (30–41)
Country of birth	
Canada	9
Other	1
Geographic location	
Toronto	7
Outside Toronto	3
Heterosexual	10
Married	10
Cohabiting with partner	10
No. of children in household†	
Singleton	13
Twins	1
Employment status at time of interview	
Participant	
Maternity leave	5
Working outside home	2
Working from home	1
Primary caregiver	2
Partner	
Employed full-time	10
Live-in nanny	1
Previous cesarean birth	
Planned	4
Unplanned	2
Emergent‡	4
Presence of partner during standard cesarean birth	10
Presence of partner during skin-to-skin cesarean birth	10
Timing of interview, mean no. of months post partum (range)	11.2 (1–19)

\*Except where noted otherwise.  
 †Includes only children from previous pregnancies.  
 ‡Due to cephalopelvic disproportion or fetal distress.

**Connection with infant**

Skin-to-skin cesarean birth enabled maternal connection and intimacy with the infant. All 5 participants who had completed their first year postpartum at the time of their interview mentioned the intangible sense of closeness that carried through the first year of mothering their child born by skin-to-skin cesarean delivery. They felt that, in a way, their skin-to-skin cesarean birth replicated a vaginal birth, and several participants were disappointed they had missed out on important, and now lost, moments in their previous cesarean birth(s).

**Table 2: Study themes and representative quotes**

Theme	Description	Representative quote
Support for skin-to-skin cesarean birth	Participants reported feeling supported practically and emotionally by their families and the medical team in their decision to pursue a skin-to-skin cesarean delivery and during the birth itself	<p>It was a very relaxed situation. ... The nurses were amazing. The anesthetist was amazing. He was helping with making sure that [the baby] was able to get onto my chest. ... It was a really nice situation. ... Everybody introduced themselves and told me who they were and what they were going to do. It was incredibly supportive, and they made sure I was comfortable. (M1)</p> <p>I was really thankful and grateful for the staff. ... I couldn't believe the quality of care I received. And how well I was treated. ... They were so sensitive and thoughtful about how they approached me and how they talked. ... I felt so confident in the staff that it took a big burden away from the situation. (M6)</p>
Control	When participants compared their experiences of standard cesarean birth to the skin-to-skin method, they described a shifting locus of control and a clear sense of empowerment with skin-to-skin cesarean birth	<p>The thing that made the big difference to me was to be able to have the baby come right to me from being born. Come right into my arms and have skin-to-skin and basically no to very minimal separation. I didn't have that with [my previous C-section], so I was really excited about that. ... It was great. Another thing was the fact that I had the option to let the cord pulse out on its own instead of being cut immediately. That was something that I really wanted, and it wasn't an option with the standard C-section. (M2)</p> <p>It was better than what I had been expecting. The feeling of not having had to have a separation from [the baby]. It felt a lot more like what I had hoped to have if I [had] had a vaginal birth. It felt a lot more natural. ... It felt like the way it should be. The baby comes out of your body and it's given to you right away. ... With my first baby, when they took her away, I didn't even get to see her. ... They took her before I could get a good look at her, so that really bothered me. (M2)</p>
Connection with infant	Participants described that skin-to-skin cesarean birth enabled maternal–infant connection and intimacy, an intangible sense of closeness that carried through their first year of mothering, and a sort of replication of the experience of a vaginal delivery	<p>[The baby] was rooting right away. ... She started nursing right on the operating table. ... It was a cool experience just letting nature take its course. It was uninterrupted by people intervening. It was nice that when she was ready, she got to do it right away. (M4)</p> <p>I had more of an instant connection with my second son, when we did the skin-to-skin. ... I definitely feel like there was an immediate connection with him. Everything was at ease. ... We seemed very much at ease, very much relaxed compared with [my] other pregnancies postpartum. ... We were instantly at ease and not overly anxious. I think a lot of it also [had] to do with the fact that he was able to latch [on] immediately, and any concerns that I had about not being able to breastfeed and all these issues that I had with my first son [were] at ease. (M5)</p> <p>[Skin-to-skin] is the most amazing experience. What you feel when they put the baby on your chest right away. What you feel and the bond. You connect so well. I feel like he's more in tune with me. ... The minute I hold him, he completely stops crying. And I feel like the difference is from skin-to-skin. (M10)</p> <p>The births were extremely different even though I had a C-section both times. It was much more isolating the first time. I wasn't as connected. Whereas with [skin-to-skin], I felt very connected. Even the feeling in the [operating room] made it feel like being part of the birth ... rather than isolated from it. ... It's weird to say that [because] of course I was part of it, but I didn't really feel part of it. Whereas the second time, I felt like I was in the middle of it. The birth was right there. I was part of it. It was definitely a better experience. ... It was much calmer. There was a peacefulness almost to it. It was calm and it was laid back and there was nothing tense about it at all. ... It was incredibly meaningful, and it was magical to be part of the first breaths and the first movements, and it kind of makes me sad that I wasn't part of that with [my first baby] because it feels like I missed out on that, but I'm so grateful that I had it with [this baby]. If I was to have another, I would definitely do this again. (M1)</p>
Logistic considerations	Participants recognized that skin-to-skin cesarean birth required additional staff in the operating room and that breaking the sterile field changed standard procedures; they consistently expressed gratitude for this option	<p>[Skin-to-skin] exceeded my expectations. ... They tell you that, depending on staffing, and if there [are] any emergencies, there's a chance that it may not be able to happen. So, you are prepared then. It might be a regular C-section. And then, when I got to ... hold my baby right away, it was amazing. I was very grateful. (M4)</p>



The very different experience of skin-to-skin versus standard cesarean birth had an important impact on some participants, who observed that their standard cesarean birth interfered with long-term intimacy and connection with their children. Although some thought their bonding experience was the same with children born via both delivery methods, most felt that their early moments together contributed uniquely to their attachment with their children born via skin-to-skin cesarean delivery. Nearly all participants noted that breastfeeding their infant born via skin-to-skin cesarean delivery was quite different from their previous experiences, with several believing that skin-to-skin contact improved their confidence in and duration of breastfeeding.

Furthermore, participants found that touching, holding and comforting their infant offered a distraction from the surgical procedure, and some mentioned feeling less physical pain because of that distraction.

In addition to attachment and bonding, several participants observed that their infants were less stressed during skin-to-skin cesarean birth than during their previous standard cesarean birth(s).

### Logistic considerations

Participants recognized that skin-to-skin cesarean birth required additional resources within an already burdened health care system, and that breaking the sterile field changed standard procedures, which could potentially result in negative outcomes. They acknowledged and appreciated that offering skin-to-skin cesarean birth depended greatly on human resource power and nursing availability, and that these factors could hinder access for other women. They expressed gratitude and reiterated that skin-to-skin cesarean birth was substantially more enjoyable and that the operating room environment was much more welcoming and positive than during their standard cesarean birth(s).

### Interpretation

Our results suggest that pregnant women and their partners desire a skin-to-skin cesarean birth rather than a standard cesarean birth except when separation is medically necessary, and that institutions and medical teams can support this. Delivery via skin-to-skin cesarean birth gave control over the birth experience back to women and facilitated natural mothering and infant transition to the outside world. Participants also recognized implementation barriers, including the need for additional resources and practice change.

Nonetheless, the existing literature on practice change shows that such transformations are possible.<sup>23,46</sup> Among 144 skin-to-skin cesarean births from 2009 to 2012 at a US community hospital housing a family medicine residency program, complication rates were similar to or lower than those for cesarean deliveries without skin-to-skin contact.<sup>23</sup> Gouchon and colleagues<sup>46</sup> compared maternal and neonatal temperatures in the 2 hours after the mother returned from the operating room after skin-to-skin versus routine cesarean birth. They found that infants born via skin-to-skin cesarean delivery were not at risk for hypothermia.

In the current study, although not all participant experiences were homogeneous, the 4 predominant themes that emerged were consistent with those in previous studies exploring the role of skin-to-skin cesarean birth, which also showed positive outcomes.<sup>8,46,47</sup> For example, early skin-to-skin contact in the operating room and during recovery can be used as an intervention to increase the success of breastfeeding initiation in healthy infants after cesarean birth.<sup>8,46</sup> Healthy infants born by cesarean delivery who experienced skin-to-skin contact in the operating room had lower rates of formula supplementation in hospital (33%) than infants who experienced skin-to-skin contact within 90 minutes but not in the operating room (42%) and those who did not experience skin-to-skin contact within 90 minutes (74%).<sup>8</sup> The authors concluded that skin-to-skin contact after cesarean delivery is feasible and could be offered to healthy women and their infants immediately after birth. Gouchon and colleagues<sup>46</sup> reported that more infants born via skin-to-skin cesarean delivery than those born via routine cesarean delivery attached to the breast at 30 minutes (9 v. 4), and were breastfeeding at discharge (13 v. 11) and 3 months (11 v. 8). Women who gave birth by skin-to-skin cesarean delivery expressed high levels of satisfaction with this intervention.<sup>46</sup>

Our results refine and add context to the existing literature on skin-to-skin cesarean birth by documenting women's experiences in their own words from their perspective. They support the WHO's recommendation of immediate skin-to-skin contact after birth regardless of delivery method unless separation is required medically.<sup>3</sup>

Previous studies of women's experiences of skin-to-skin cesarean birth exist.<sup>47,48</sup> However, Frederick and colleagues<sup>47</sup> used a different theoretical framework than we did, had a shorter study period, included the father's experiences and was intended for a specific audience (advanced practice nurses). Stevens and colleagues<sup>48</sup> results were part of a larger study, and they had a shorter study period (6 wk postpartum). In addition, our results highlight how skin-to-skin cesarean birth could be used as an intervention to facilitate breastfeeding, which is in keeping with previous studies.<sup>8,46,48</sup>

Given that women who deliver via cesarean birth versus vaginally report a less satisfactory birth experience,<sup>31</sup> have higher rates of postpartum depression and are more likely to have difficulty breastfeeding,<sup>23,31</sup> researchers should focus on implementing skin-to-skin cesarean birth in a variety of settings and evaluating outcomes prospectively, while including women's voices, to help address these differences. In addition, the implementation of skin-to-skin cesarean birth at other hospitals may require a cultural shift in the operating room environment, changes to standard protocols, stakeholder education, positive reinforcement for staff and active support from management.

### Limitations

Since our participants had experienced a previous cesarean birth, some findings may be attributable to the fact that this was not their first cesarean delivery. In addition, 4 participants (40%) had had a prior emergency cesarean birth for cephalopelvic disproportion or fetal distress, which may have affected their previous birth experience.

The women included in this study had uncomplicated singleton pregnancies with skin-to-skin cesarean birth, which may limit applicability to more traumatic cesarean deliveries.

We had a fairly homogeneous convenience sample (i.e., recruited through a large academic tertiary care centre, similar ages, married, heterosexual); therefore, the perspectives of other women, such as those from rural areas, were not included. In addition, the potential applicability of our findings to other contexts<sup>45</sup> is limited to similar care centres. Our sample was also small, although, within phenomenology, typical sample sizes range from 1 to 10.<sup>49,50</sup> We could have conducted additional interviews; however, data saturation was reached after 10 interviews, which prompted us to stop interviewing.

There is a lack of discrepant cases; however, as described in the Methods section, we used several other strategies to increase the credibility of the data.

The study period was 3 years because of several logistic factors (interview rescheduling, other author commitments). However, participant experiences were remarkably uniform over the 3 years, which suggests that the study period window did not substantially affect the results. In addition to these logistic considerations, only 20 participants met the inclusion criteria per year.

Finally, interviews took place 1–19 months postpartum. This broad range was primarily due to logistic considerations. The first skin-to-skin cesarean delivery at Sunnybrook Health Sciences Centre was in 2013. However, this study started in 2015; therefore, the first participants were recruited up to 19 months postpartum. Once the study was underway, participants were recruited before delivery, and interviews were conducted closer to their delivery date. Given the similarity between women's responses regardless of when their interviews were conducted in relation to delivery, we are confident that recall bias was not a substantial factor.

## Conclusion

This study highlights the importance of skin-to-skin cesarean birth to women. Skin-to-skin cesarean birth has the potential to improve outcomes for women and infants and increase patient satisfaction. Although widespread implementation would require practice change and a cultural shift, the current literature suggests that this is possible. In addition, our results provide a critical perspective — that of mothers — and support the transformation of traditional operating room dynamics to reflect a more patient-centred environment. They also support the WHO's recommendation of immediate skin-to-skin contact between a mother and her infant whenever safely possible regardless of delivery method.

## References

1. Beal JA. Evidence for best practices in the neonatal period. *MCN Am J Matern Child Nurs* 2005;30:397–403, quiz 404–5.
2. Moore ER, Bergman N, Anderson GC, et al. Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database Syst Rev* 2016; (11):CD003519.
3. *Baby-friendly hospital initiative: revised, updated and expanded for integrated care*. Geneva: World Health Organization; 2009.
4. Chalmers B, Levitt C, Heaman M, et al.; Maternity Experiences Study Group of the Canadian Perinatal Surveillance System, Public Health Agency of Canada. Breastfeeding rates and hospital breastfeeding practices in Canada: a national survey of women. *Birth* 2009;36:122–32.
5. Chalmers B, Kaczorowski J, Darling E, et al.; Maternity Experiences Study Group of the Canadian Perinatal Surveillance System. Cesarean and vaginal birth in Canadian women: a comparison of experiences. *Birth* 2010;37:44–9.
6. Beake S, Bick D, Narracott C, et al. Interventions for women who have a caesarean birth to increase uptake and duration of breastfeeding: a systematic review. *Matern Child Nutr* 2017;13:e12390.
7. Guala A, Boscardini L, Visentin R, et al. Skin-to-skin contact in cesarean birth and duration of breastfeeding: a cohort study. *ScientificWorldJournal* 2017;2017: 1940756.
8. Hung KJ, Berg O. Early skin-to-skin after cesarean to improve breastfeeding. *MCN Am J Matern Child Nurs* 2011;36:318–24, quiz 325–6.
9. Redshaw M, Hennegan J, Kruske S. Holding the baby: early mother–infant contact after childbirth and outcomes. *Midwifery* 2014;30:e177–87.
10. Bigelow A, Power M, MacLellan-Peters J, et al. Effect of mother/infant skin-to-skin contact on postpartum depressive symptoms and maternal physiological stress. *J Obstet Gynecol Neonatal Nurs* 2012;41:369–82.
11. Feldman R, Eidelman AI, Sirota L, et al. Comparison of skin-to-skin (kangaroo) and traditional care: parenting outcomes and preterm infant development. *Pediatrics* 2002;110:16–26.
12. Marín Gabriel MA, Llana Martín I, López Escobar A, et al. Randomized controlled trial of early skin-to-skin contact: effects on the mother and the newborn. *Acta Paediatr* 2010;99:1630–4.
13. Mörelus E, Örténstrand A, Theodorsson E, et al. A randomised trial of continuous skin-to-skin contact after preterm birth and the effects on salivary cortisol, parental stress, depression, and breastfeeding. *Early Hum Dev* 2015;91: 63–70.
14. Dumas L, Lepage M, Bystrova K, et al. Influence of skin-to-skin contact and rooming-in on early mother–infant interaction: a randomized controlled trial. *Clin Nurs Res* 2013;22:310–36.
15. Mikiel-Kostyra K, Mazur J, Bołtrusko I. Effect of early skin-to-skin contact after delivery on duration of breastfeeding: a prospective cohort study. *Acta Paediatr* 2002;91:1301–6.
16. Walters MW, Boggs KM, Ludington-Hoe S, et al. Kangaroo care at birth for full term infants: a pilot study. *MCN Am J Matern Child Nurs* 2007; 32:375–81.
17. Ferber SG, Makhoul IR. The effect of skin-to-skin contact (kangaroo care) shortly after birth on the neurobehavioral responses of the term newborn: a randomized, controlled trial. *Pediatrics* 2004;113:858–65.
18. Marx Delaney M, Maji P, Kalita T, et al. Improving adherence to essential birth practices using the WHO Safe Childbirth Checklist with peer coaching: experience from 60 public health facilities in Uttar Pradesh, India [published erratum in *Glob Health Sci Pract* 2018;6:227]. *Glob Health Sci Pract* 2017;5:217–31.
19. Bergström A, Okong P, Ransjö-Arvidson AB. Immediate maternal thermal response to skin-to-skin care of newborn. *Acta Paediatr* 2007;96:655–8.
20. Gray L, Watt L, Blass EM. Skin-to-skin contact is analgesic in healthy newborns. *Pediatrics* 2000;105:e14.
21. Johnston C, Campbell-Yeo M, Fernandes A, et al. Skin-to-skin care for procedural pain in neonates. *Cochrane Database Syst Rev* 2014;(1):CD008435.
22. Perinatal health indicators for Canada: 2017. Ottawa: Public Health Agency of Canada; modified 2017 Aug. 30.
23. Magee SR, Battle C, Morton J, et al. Promotion of family-centered birth with gentle cesarean delivery. *J Am Board Fam Med* 2014;27:690–3.
24. Stevens J, Schmied V, Burns E, et al. Immediate or early skin-to-skin contact after a Caesarean section: a review of the literature. *Matern Child Nutr* 2014;10: 456–73.
25. Brady K, Bulpitt D, Chiarelli C. An interprofessional quality improvement project to implement maternal/infant skin-to-skin contact during cesarean delivery. *J Obstet Gynecol Neonatal Nurs* 2014;43:488–96.
26. Bronsgeest K, Wolters VERA, Freeman LM, et al. Short report: post-operative wound infections after the gentle caesarean section. *Eur J Obstet Gynecol Reprod Biol* 2019;241:131–2.
27. Camann W, Trainor K. Clear surgical drapes: a technique to facilitate the “natural cesarean delivery.” *Anesth Analg* 2012;115:981–2.
28. Newman L, Hancock H. How natural can major surgery really be? A critique of “the natural caesarean” technique. *Birth* 2009;36:168–70.
29. Smith J, Plaat F, Fisk NM. The natural caesarean: a woman-centred technique. *BJOG* 2008;115:1037–42, discussion 1042.
30. Dabrowski GA. Skin-to-skin contact: giving birth back to mothers and babies. *Nurs Womens Health* 2007;11:64–71.
31. DiMatteo MR, Morton SC, Lepper HS, et al. Cesarean childbirth and psychosocial outcomes: a meta-analysis. *Health Psychol* 1996;15:303–14.
32. Koopman I, Callaghan-Koru JA, Alaofin O, et al. Early skin-to-skin contact for healthy full-term infants after vaginal and caesarean delivery: a qualitative study on clinician perspectives. *J Clin Nurs* 2016;25:1367–76.
33. Boyd MM. Implementing skin-to-skin contact for cesarean birth. *AORN J* 2017;105:579–92.
34. Hubbard JM, Gattman KR. Parent–infant skin-to-skin contact following birth: history, benefits, and challenges. *Neonatal Netw* 2017;36:89–97.

35. Bavaro JB, Mendoza JL, McCarthy RJ, et al. Maternal sedation during scheduled versus unscheduled cesarean delivery: implications for skin-to-skin contact. *Int J Obstet Anesth* 2016;27:17-24.
36. Creswell JW. *Qualitative inquiry & research design: choosing among five approaches*. 2nd ed. Thousand Oaks (CA): Sage Publications; 2007.
37. van Manen M. *Researching lived experience: human science for an action sensitive pedagogy*. London (ON): Althouse Press; 1990.
38. Mayoh J, Onwuegbuzie AJ. Towards a conceptualization of mixed methods phenomenological research. *J Mixed Methods* 2013;9:91-107.
39. Altheide DL, Johnson JM. Criteria for assessing interpretive validity in qualitative research. In: Denzin NK, Lincoln YS, editors. *Handbook of qualitative research*. Thousand Oaks (CA): Sage Publications; 1994.
40. Crabtree BF, Miller WL. *Doing qualitative research*. 2nd ed. Thousand Oaks (CA): Sage Publications; 1999.
41. Finlay L. "Outing" the researcher: the provenance, process, and practice of reflexivity. *Qual Health Res* 2002;12:531-45.
42. Machold CM. *The skin-to-skin caesarean section: a Canadian mother and her obstetrician share their stories [dissertation]*. Vancouver: University of British Columbia; 2015.
43. Etikan I, Musa SA, Alkassim RS. Comparison of convenience sampling and purposive sampling. *Am J Theor Appl Stat* 2016;5:1-4.
44. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3:77-101.
45. Noble H, Smith J. Issues of validity and reliability in qualitative research. *Evid Based Nurs* 2015;18:34-5.
46. Gouchon S, Gregori D, Picotto A, et al. Skin-to-skin contact after cesarean delivery: an experimental study. *Nurs Res* 2010;59:78-84.
47. Frederick AC, Busen NH, Engebretson JC, et al. Exploring the skin-to-skin contact experience during cesarean section. *J Am Assoc Nurse Pract* 2016;28:31-8.
48. Stevens J, Schmied V, Burns E, et al. Skin-to-skin contact and what women want in the first hours after a caesarean section. *Midwifery* 2019;74:140-6.
49. Dukes S. Phenomenological methodology in the human sciences. *J Relig Health* 1984;23:197-203.
50. Starks H, Brown Trinidad S. Choose your method: a comparison of phenomenology, discourse analysis, and grounded theory. *Qual Health Res* 2007;17:1372-80.

**Affiliations:** Collingwood General and Marine Hospital (Machold), Collingwood, Ont.; Sunnybrook Research Institute (O'Rinn) and Aubrey & Marla Dan Centre for Women & Babies (O'Rinn), Sunnybrook Health Sciences Centre, Toronto, Ont.; Department of Anthropology (McKellin), University of British Columbia, Vancouver, BC; Birthing Unit (Ballantyne), Aubrey & Marla Dan Centre for Women & Babies, Sunnybrook Health Sciences Centre, Toronto, Ont.; Department of Obstetrics and Gynecology (Barrett), McMaster University, Hamilton, Ont.

**Contributors:** Clea Machold, Jon Barrett and Gillian Ballantyne conceived the study. Clea Machold, Jon Barrett and William McKellin designed the study. Clea Machold and Susan O'Rinn acquired, analyzed and interpreted the data, drafted the manuscript and revised the manuscript critically for important intellectual content. All of the authors approved the final version to be published and agreed to be accountable for all aspects of the work.

**Funding:** No funding was received for this work.

**Content licence:** This is an Open Access article distributed in accordance with the terms of the Creative Commons Attribution (CC BY-NC-ND 4.0) licence, which permits use, distribution and reproduction in any medium, provided that the original publication is properly cited, the use is noncommercial (i.e., research or educational use), and no modifications or adaptations are made. See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>.

**Data sharing:** As per our research ethics board approval, there are no plans to share study data.

**Supplemental information:** For reviewer comments and the original submission of this manuscript, please see [www.cmajopen.ca/content/9/3/E834/suppl/DC1](http://www.cmajopen.ca/content/9/3/E834/suppl/DC1).