Evaluation of a Patient Education Pamphlet for Women Considering Vaginal Birth After Cesarean

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ABSTRACT

We evaluated a patient education pamphlet on vaginal birth after cesarean (VBAC). Focus groups with 17 women in 4 communities involved a 5-item knowledge pretest and question on intention to plan VBAC, reading the pamphlet, a knowledge posttest, and a moderated discussion. Forming a preference for birth after cesarean was characterized by (a) consolidating information from social sources, (b) seeking certainty in your next birth, and (c) questioning your ability to have a vaginal birth. Participants preferred vaginal birth, but all feared the uncertainty of labor. Knowledge scores increased for all participants, but intentions to plan a VBAC did not change. Our findings may encourage the development of interventions to reduce women's fear of vaginal birth.

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Repeat cesarean surgeries are the single largest contributor to the rising cesarean rate in Canada. The repeat cesarean birth rate among women with a prior cesarean birth increased from 64.7% in 1995–1996 to 82.5% in 2011–2012 (Canadian Institute for Health Information, 2013). Repeat cesareans among multiparous, singleton, and cephalic births at term accounted for 32.0% of cesarean births in

the total obstetric population in 2010–2011 for British Columbia, Alberta, Ontario, Nova Scotia, and Newfoundland and Labrador (Kelly et al., 2013). The Society of Obstetricians and Gynaecologists of Canada (SOGC) recommends that low-risk women with one previous transverse low-segment cesarean surgery be offered the opportunity to plan a vaginal birth after cesarean (VBAC; Martel & MacKinnon,

2005). Among women who plan to have a VBAC, approximately 70% are successful (Landon et al., 2004; Perinatal Services BC, 2014a).

To make decisions about options for labor and birth, expectant women increasingly rely on information from peers, the media, and the Internet (Bartholomew, 2009), which may not be evidence based or reflect their local health services (Lagan, Sinclair, & Kernohan, 2010; Larsson, 2009). Klein and colleagues' (2011) national survey of Canadian women approaching their first birth indicates that women have significant knowledge gaps about interventions in pregnancy, labor, and birth and are not well-informed to make childbearing decisions. In a retrospective cohort study of 624 low-risk parturient women in British Columbia, only 12.7% of multiparous participants attended prenatal classes (Stoll & Hall, 2012). The authors observed a twofold increase in VBAC attempts among eligible multiparas who attended classes versus those who did not (66.7% vs. 31.7%).

A recent Canadian study reported that currently available VBAC information websites provide incomplete information on risks and benefits when compared to the SOGC guidelines on VBAC and, on average, have poor readability scores (Bantan & Abenhaim, 2015). A similar United Kingdom review found that most VBAC information websites that women access through Google originate in the United States and consequently reflect information on American health services (Whitelaw, Bhattacharya, McLernon, & Black, 2014). In this context, there is a gap in the availability of high-quality online information for childbearing women regarding mode of birth after cesarean in Canada.

We developed a patient education pamphlet entitled *Vaginal Birth After Cesarean (VBAC) in BC: Your Questions Answered* and engaged in a two-part focus group study to explore Canadian women's information needs for choosing mode of birth after cesarean. In the first stage, we explored (a) women's experience of considering options for mode of birth after cesarean and (b) women's information needs. In the second stage, we evaluated the effectiveness of the pamphlet by asking (a) does the pamphlet increase women's knowledge of the risks and benefits of VBAC versus planned elective repeat cesarean and (b) does the pamphlet influence women's intention to plan a VBAC? We also asked women how they perceived the content, appearance, format, delivery, and comprehensibility of the pamphlet.

METHODS

Setting and Participants

Four focus groups took place in four British Columbia communities purposively selected to reflect the ethnic and geographic diversity of childbearing women in the province. Participants included women who had had a previous cesarean and were pregnant or considering a future pregnancy. Women were excluded if they could not read English or had a contraindication to vaginal birth according to SOGC guidelines for VBAC (Martel & MacKinnon, 2005). Recruitment strategies included (a) third-party recruitment by public health nurses and (b) passive recruitment using study posters in community settings frequented by pregnant women and new mothers. Ethics approval for evaluation was obtained from the behavioral research ethics boards of the University of British Columbia (H08-00701) and Fraser (2010-024), Northern (RRC-2008-0037), and Vancouver Coastal (V090233) health authorities. All participants read and signed a study consent form. They received a \$25 grocery store gift card for their participation.

Development Process

Content for the pamphlet (Figure 1) was developed from (a) a systematic review of the literature on the risks and benefits of planned VBAC versus elective repeat cesarean conducted by Optimal Birth BC (2010; www.optimalbirthbc.ca) and (b) prevalence rates for maternal/fetal/newborn outcomes associated with VBAC and repeat cesarean birth derived from analysis of Perinatal Services BC data from 1990–2009 (Perinatal Services BC, 2014b). The Optimal Birth BC team assessed the pamphlet's accuracy, plain language, and layout. The readability of the pamphlet was assessed using the SMOG Index (McLaughlin, 1969) and the Flesch-Kincaid Grade Level test (Flesch, 1979). Both tests scored the pamphlet at a Grade-9 reading level. Edits were made based on the team's feedback, and a printed, four-panel, double-sided color pamphlet was produced.

We chose to develop a pamphlet, rather than a patient decision aid (PtDA) with a values clarification component. The aim of the pamphlet is to increase a woman's knowledge of her options for future mode of birth, ensure that she has accurate knowledge of those options, and ensure that she understands planned VBAC is a safe and recommended option. The pamphlet is intended to support discussions between women and their care providers in the early postpartum after a primary cesarean surgery. At this early

Figure 1. Vaginal birth after cesarean pamphlet.

Six Common Questions

01 What are the benefits of having a vaginal birth if I had a cesarean before?

- A vaginal birth has several benefits:
- Less risk of infection (0.7% risk for vaginal birth compared to 1.4% risk with a cesarean).
 - A shorter stay in hospital (1-2 nights instead of 3 or more).
 - A faster recovery, making it easier to breastfeed, look after other children and return to your usual level of activity.
 - Less pain overall. Labour may be painful, but if you deliver vaginally, the pain is mostly over once your baby is born.

→ One major study shows that about 50% of mothers have some pain during the first two months after vaginal delivery but only 2% report pain at six months after the baby is born. In contrast, 80% of mothers report pain two months after a cesarean birth and 20% are still experiencing some pain at six months.¹

02 How likely is it that my baby will experience major complications if I choose a VBAC?

During the last 10 years in BC it has been extremely rare (0.05%) for a baby to experience life-threatening complications after a VBAC or a planned cesarean. Other complications that can cause concern (admission to an intensive care nursery, help with breathing, low overall health rating at birth) are also uncommon. In fact, the rates are similar for women having a VBAC (0.6%) or cesarean (0.5%).

03 What is the likelihood of a major complication for me if I plan to give birth vaginally?

The risk of a major complication after a previous cesarean is low and not that different for women planning a vaginal birth (1.4%) compared to those planning another cesarean (1.0%).

Major complications for either group can include uterine rupture, hysterectomy, blood transfusion or infection, or complications of anaesthesia. Uterine rupture is a tear of the uterus or womb and it causes internal bleeding. This rare but serious complication is hard to predict for any woman having a baby but is slightly more likely to occur (0.3%) among women who planned a VBAC compared to those who planned a cesarean (0.1%). These complications are usually recognized quickly and treated in hospital.

04 What if I have a vaginal tear during my VBAC? Aren't I at risk of ongoing problems and pain?

In the last ten years, less than 5% of women having a VBAC had a major vaginal tear.

It's common to worry about problems associated with a vaginal tear. Women are concerned about pain in the genital area and problems with sexual relations or with urination or bowel movements. Fortunately, for the few women who do experience a vaginal tear, these problems are temporary and studies have shown that three months after giving birth, they are fully resolved.²

05 I'm in my late 30s. Does my age make it more risky for me to give birth vaginally after a previous cesarean?

There is an increased risk of complications in pregnancy and birth for all women over the age of 35 compared to younger women. For women over 35 planning a VBAC, the risk of major complications is 1.9% compared to 1.4% for 25-30 year olds.

06 The reason I had a cesarean last time was because my baby was large and my labour didn't progress. Isn't it likely to be the same this time?

Not necessarily. Among women in BC who had a cesarean because of a lack of progress in labour, 56% went on to have a vaginal birth the next time. For women who had a previous vaginal birth at any time, this number increases to 72%.

→ BC is a safe place to have a baby. Ten years of VBACs in BC have shown that complications are rare for both mother and baby.

Please note: this pamphlet is not intended for women with ongoing health issues such as diabetes, high blood pressure, or heart problems. If these conditions apply to you, or if you are having twins, experiencing early labour before 36 weeks, or have had uterine surgery other than a routine cesarean, your doctor will give you personal advice related to your situation.

¹ Declercq E, Burger M, Cabral H et al. Maternal outcomes associated with planned primary Cesarean births compared with planned vaginal births. *Obstetrics & Gynecology*, 2007; 109(3): 669-677.

² Hannah ME, Hannah WJ, Hodnett ED et al. Outcomes at 3 months after planned cesarean vs planned vaginal delivery for breech presentation at term: a randomized trial. *Annals of Internal Medicine*, 2002; 136(10): 709-715.

Figure 1. Continued.

time in a woman's decision-making process, the goal is to increase her knowledge and awareness of options, not prepare her to make an actual decision. In the next pregnancy, when the timing is appropriate to make an actual decision in partnership with her care team, a PtDA might be a useful tool to support a woman's decision making. In the future, we aim to develop an online PtDA for birth after cesarean that would build on the content of this paper-based pamphlet.

Focus Group Method

Participants completed a demographic questionnaire and a pretest consisting of (a) two single-item questions with yes/no responses: "Do you know what VBAC means?" and "For your next child would you consider a vaginal birth?" and (b) five knowledge statements about outcomes related to repeat cesarean and VBAC, each scored on a 5-item Likert scale ranging from *strongly agree* to *strongly disagree*. After the pretest, each participant reviewed the pamphlet and then completed a posttest. The posttest included the same 5-item knowledge test used in the pretest and a single-item question with a yes/no response: "Did reading this give you information about birth options that you did not have before?" Following completion of these tasks, a research team member with experience in focus group moderation guided a discussion. The first question explored what information women wanted about birth after cesarean. Subsequent probes explored when women formed a preference for mode of birth and what contributed to that preference. Open-ended questions were then asked on the following topics related to the usability of the pamphlet: the relevance of the content; the appearance of the font, color scheme, and layout; the format of a tri-fold pamphlet; the delivery of the pamphlet through care provider clinics; and the comprehensibility of the pamphlet. A second research assistant took field notes. Each focus group discussion was audiotaped and later transcribed verbatim for analysis.

Focus Group Discussion Analysis

Focus group qualitative data collection and analysis were guided by thematic analysis (Braun & Clarke, 2006). All transcripts were entered into QSR NVivo qualitative data management software (Ver. 10.1.3). The transcripts first were coded using a predefined coding scheme to assess the usability of the pamphlet, which was adapted from the discussion questions. The transcripts then were coded inductively to identify emerging themes that did not reflect

the coding scheme. Each transcript was read and reread and then coded first through initial coding (identifying tentative labels for chunks of similar text) and second through focused coding, which consisted of labeling sections of the transcripts with the categories that emerged from analysis. Two research team members independently coded the transcripts and achieved a high level of congruence in coding. Findings were written into an explanatory narrative.

Knowledge Pre- and Posttest Analysis

Change in knowledge was measured by comparing pre- and posttest scores from the 5-item knowledge test. Given the ordinal nature of data and a nonnormal distribution, responses were compared using the nonparametric Wilcoxon signed rank test for two related samples (Field, 2000). IBM SPSS Version 22.0 was used for statistical analyses. Statistical significance was denoted as $p \leq .05$.

RESULTS

Seventeen women participated in the four focus groups. Participants were predominantly 30–39 years old, had one child, were born in Canada, had received primary maternity care from a family doctor, and had at least a college or technical/trade education (Table 1). Of the participants, 17.6% were currently pregnant. Participants required on average 10 minutes to read the pamphlet. Stage 1 of the study consisted of exploring women's experience of considering options for mode of birth after cesarean and their information needs. Stage 2 consisted of evaluating the effectiveness of our prototype pamphlet. Representative quotations from analysis of focus group responses to stage two are found in Table 2.

All participants had begun their first pregnancy with the plan of having a vaginal birth. Five participants had planned cesarean surgeries for breech presentation, whereas the remainder had an emergency cesarean. Participants detailed their perceived indications for having an emergency cesarean, which included dystocia, fetal bradycardia, cephalopelvic disproportion, failure to establish labor, and fetal distress. Most described experiencing a lack of autonomy in the decision, as one expressed, "I wanted to have normal vaginal delivery but I was forced to have a cesarean so I had no choice" (FG1). Although most participants expressed not completely understanding the reasons for their primary cesarean

TABLE 1
Sociodemographic Characteristics of Participants

Characteristic	% (n)
Age (years)	
<20	0
20–29	29.4 (5)
30–39	58.8 (10)
>40	11.8 (2)
Place of birth	
Canada	58.8 (10)
India	11.8 (2)
Asia	11.8 (2)
Other	17.6 (3)
Number of children	
1	58.8 (10)
2	35.3 (6)
3 or more	5.9 (1)
Annual household income	
<\$35,000	35.3 (6)
\$35,000–\$75,000	47.1 (8)
>\$75,000	11.8 (2)
Prefer not to answer	5.9 (1)
Education level	
Primary school	0
Graduated high school	35.3 (6)
College or technical/trade	35.3 (6)
University degree	29.4 (5)
Lives with partner	82.4 (14)
Pregnancy care provider ^a	
Family doctor	52.9 (9)
Obstetrician	35.3 (6)
Midwife	5.9 (1)
No answer	5.9 (1)

^aPrimary maternity care provider for first pregnancy. Six participants had subsequent pregnancies, and all but one continued to receive care from their original care provider type. One participant changed from an obstetrician to a midwife.

surgery, each felt that the perceived indications for their primary cesarean increased their likelihood for having a cesarean in future pregnancies.

Exploring Women's Experiences and Information Needs

Thematic analysis of focus group transcripts resulted in our identification of three core processes illustrating participants' experience of forming a preference for mode of birth after cesarean: (a) consolidating in-

formation from social sources, (b) seeking certainty in your next birth, and (c) questioning your ability to have a vaginal birth.

Consolidating Information From Social Sources. More than half of the participants indicated that care providers and family members had a more persuasive impact on their preference for mode of birth than did objective, evidence-based information on risks and benefits. In encountering information from different social sources, participants described a process of consolidating information from peers, family members, and various care providers they met throughout their childbearing journey. This process included listening to knowledge they felt was trustworthy and confirmed their preexisting beliefs and disregarding information that seemed biased, untrustworthy, or that conflicted with their preferences. Peers in person and on social media were perceived in general to be highly positive resources that participants described as “understanding” (FG3), “real” (FG1), and “helpful” (FG1). Care providers were also considered a trustworthy and influential resource in choosing mode of birth, but participants' narratives suggested that many care providers discouraged planned VBAC. One woman expressed that she had “a 50% chance of delivery naturally,” which she perceived to be poor odds and led to her decision to have a planned repeat cesarean (FG2). Another felt she was unlikely to have a VBAC because of having, as her doctor described, a “squishy” uterus:

My doctor told me after she saw me after they stitched me up and stuff she told me that if I was going to have another kid that the chances of me giving a vaginal birth were slim to none because my uterus was squishy she said [laughter]. I don't know if it was working for so long. She just said that like I pretty much wouldn't be able to and I don't know if anyone else has experienced that. (FG2)

Two women expressed that given their care providers' prognoses, they felt physically incapable of having a vaginal birth. One who had had an emergency primary cesarean for failure to progress explained, “My doctor said, ‘It's just your body not made for vaginal birth, so you should go for c-section for the second time’ . . . [My family] said, ‘If you want to have another child, you have to get a cesarean’ . . . I don't think my body allows me to have vaginal delivery as well” (FG1). Another participant

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TABLE 2
Selected Quotations on Usability From Focus Group Discussions, Organized by Theme

Theme	Quotation
Content	<p>"This [tool] actually did provide great information showing the contrast between the two options, how similar the numbers are between complications of both options, and the likelihood for success." (FG3)</p> <p>"I didn't know that VBAC was an option." (FG3)</p> <p>"I think it's nice to have the numbers . . . but sometimes it's hard to gauge what that means for you like risk-wise. I see the vaginal birth has a maybe a 1.4% risk and the cesarean is 1% so they're pretty close but like I still say, 'Oh, the vaginal birth is a little bit higher than a c-section' so I mean—ugh—I know it's not very much, but sometimes I wonder like what if you're that 0.4% you know." (FG1)</p> <p>Participant: I want to know why is it supposed to be so much better to have a vaginal birth. Why?</p> <p>Moderator: Did you find the pamphlet helpful for that?</p> <p>Participant: No. It says you know that you could have it naturally, but why is it so much better than a c-section? Besides that, you're being cut. Why? Why is it so much better? Is it better for you or for the baby? I don't know. (FG2)</p>
Appearance	<p>"I don't think it stands out, if it was with all these other pamphlets." (FG1)</p> <p>"Usually if I see it [a pamphlet] at the doctor's office, I look at it but can't read the thing; I just kind of skim past it." (FG2)</p>
Format and delivery	<p>"It would be nice if there was like a really comprehensive website that talked about like different scenarios and things. Like maybe like what are your odds of having a successful VBAC like if you're low risk or medium risk or different things." (FG1)</p> <p>"I do all my research on the Internet." (FG1)</p>
Comprehension	<p>"I think it's pretty straightforward, you know. It goes in sections and that makes it easier to read you know, too. It's got the question and then it sort of has the answer." (FG2)</p> <p>"You know when you are in a doctor's office you don't have much . . . especially with a child around, you don't have much time and patience to read it through." (FG3)</p>

stated that the pamphlet would be a helpful resource for educating her family on the safety of VBAC: "A lot of people I think outside of BC like my parents, like people, they don't know that you can have a VBAC. So you can say actually, like you can look at the evidence and you know it's fine" (FG1). Others noted that caring for both a toddler and a newborn would be challenging after cesarean because they would not be allowed to lift and carry their toddler during recovery from abdominal surgery. For some, this information came not from their care provider but from other mothers who had experienced a repeat cesarean. Information from experienced mothers provoked the participants to consider the factors that might influence their own postpartum recovery in future pregnancies. In sum, participants' narratives revealed that subjective knowledge from care providers, peers, and family members strongly influence women's decisions.

Seeking Certainty in Your Next Birth. In forming a preference for mode of birth after cesarean, participants described seeking certainty and predictability in the birth process and birth outcomes and,

concomitantly, avoiding the unknown. All but one participant expressed that a vaginal birth was "normal" and "natural" and associated with greater likelihood of successful breastfeeding and bonding.

In spite of expressing a preference for vaginal birth, only half of participants stated in the survey that they would consider a VBAC for future pregnancies. Some women expanded on this response in focus groups, saying they would not plan a VBAC because of fear of "the unknown" during labor and birth. The specific fear that each woman expressed stemmed from her experience of her first birth. One woman who had an elective primary cesarean described having a fear of the unknown of labor and vaginal birth: "Vaginal birth is kind of scary because I never went into labor, and so I still don't know what that's like, and I don't know how long that would take or if I'd end up needing a c-section anyway.

In forming a preference for mode of birth after cesarean, participants described seeking certainty and predictability in the birth process and birth outcomes and, concomitantly, avoiding the unknown.

So—I think I will plan on having a vaginal birth, but I’m not 100% certain yet” (FG1). In contrast, other participants expressed fear of repeating the trauma of their first emergency cesarean (“I would be terrified to have another cesarean experience” [FG2]). Other women perceived that repeat cesarean would provide greater certainty in their birth experience in comparison to a planned vaginal birth.

Questioning Your Ability to Have a Vaginal Birth. Fears of the unknown and of pain in labor also were related to participants’ sense of self-efficacy—belief in their abilities to have vaginal births. Women who expressed feeling unable to have a vaginal birth did not want to “get their hopes up” by planning a VBAC and expressed that planning a repeat cesarean would provide a certain outcome. One participant expressed a fear of having her “hope” for a VBAC thwarted by a second unplanned cesarean. Her narrative illustrated that this fear was linked to her sense of self-efficacy for vaginal birth, which “wasn’t possible” for her first birth:

I had an emergency c-section. My c-section was unplanned. The unknown—I think going into it again hoping for a VBAC and then having it that I’d have to have a second cesarean. Like it sounds good in the pamphlet, but once you’re there and they’re telling you, “You can’t have a vaginal delivery.” I don’t know. I just I think I really got my hopes up before of having a natural delivery, and then it wasn’t possible. So I doubt that it [VBAC] will be possible a second time even though the research says that it’s very likely that I would be able to. (FG3)

These attitudes and experiences illustrate that women’s preference formation for birth after cesarean depends not only on consideration of medical risks and benefits but also on their perceived self-efficacy, fears of the unknown in labor, and desire for certainty in their birth after cesarean.

Evaluating the Effectiveness of the Pamphlet

Pamphlet Content. In focus group discussions, women expressed gaining new knowledge from the pamphlet (see Table 2). All but one knew what “VBAC” meant and that it was an option, but most had not been provided with quantitative risk estimates on the likelihood of experiencing the risks and benefits of VBAC. Some appreciated that the risk estimates were from BC data and therefore

reflected the outcomes of women in their community. However, one woman described feeling increased uncertainty about the safety of VBAC after reading the following pamphlet statement: “The risk of a major complication after a previous cesarean is low and not that different for women planning a vaginal birth (1.4%) compared to those planning another cesarean (1.0%).”

Reflecting on their lack of experience with vaginal birth, many participants requested that the pamphlet begin with a section describing VBAC. One participant who intended to have a repeat cesarean in future suggested that the pamphlet include more persuasive information on why vaginal birth is preferable to cesarean. Women also suggested the pamphlet include a list of trusted resources, such as phone numbers or websites, that offer additional information about mode of birth; a description of Optimal Birth BC, the organization that developed the pamphlet; testimonials from women who have given birth by planned VBAC; and evidence on risks and benefits of VBAC versus elective repeat cesarean related to interpregnancy interval, plans for a large family, and twin pregnancy.

Pamphlet Appearance, Format, and Delivery. Participants responded positively to the appearance of the pamphlet and had minor suggestions for the color scheme and typeface. Most felt that pamphlets made available in antenatal clinics were not the ideal format and delivery for this topic. They suggested making the pamphlet available online to make it easier to access and read and to allow for interaction and discussion with other parents. Participants valued interacting with other parents through online pregnancy community forums and social media. These interactive, web-based resources, participants elaborated, allowed them to learn from others’ experiences. One participant suggested that the pamphlet be linked to the website for *Baby’s Best Chance*, a government-produced handbook offered to all pregnant women in British Columbia (British Columbia Ministry of Health, 2012). Another participant suggested tailoring the information to the risk levels of different women.

Pamphlet Comprehensibility. Confirming the positive results from the knowledge test, focus group participants reflected that the pamphlet was easy to understand, but that the length of the pamphlet may be a barrier for some women to read it thoroughly.

Figure 2. Knowledge responses pre- and postexposure to pamphlet.

In response, another participant suggested making the content shorter and presenting it as a one-page handout.

Change in Knowledge. In answer to the question, “Do you know what ‘VBAC’ means?” 88% of participants ($n = 12$) indicated yes. After reading the pamphlet, knowledge scores for all participants increased (Figure 2). More women agreed that most women would be able to give birth vaginally safely after a prior cesarean ($p = .001$). Significantly more women disagreed that if a woman planned a vaginal

birth, it would be likely that something would go wrong and she would need another cesarean surgery ($p = .04$). Significantly more women believed that a vaginal birth is less painful than a cesarean after reading the pamphlet ($p = .03$). We observed a nonsignificant increase in the number of women who disagreed that it would be more risky for their baby if they planned a vaginal compared to a cesarean birth ($p = .17$). In response to the question, “Did reading this give you information about birth options that you did not have before,” nine participants (52.6%) indicated that the pamphlet gave

them new information about birth options. Other participants elaborated in an open-ended response that they had already engaged in a discussion about VBAC versus repeat cesarean risks and benefits with their care provider.

Change in Intention to Plan a Vaginal Birth After Cesarean. Prior to reading the pamphlet, 64.3% of participants ($n = 9$) responded that they would consider a vaginal birth for their next birth, and after 69.2% indicated that they would consider a vaginal birth ($p = 1.00$). One woman answered this question only on the pretest, another changed her response to yes, whereas a third participant changed her response to no.

DISCUSSION

The information pamphlet *Vaginal Birth After Cesarean (VBAC) in BC: Your Questions Answered* was effective in increasing women's knowledge about the risks and benefits of VBAC and was perceived by study participants to be useful and usable. Despite their knowledge increase, there was no overall change in women's preferences for VBAC after reading the pamphlet, suggesting that information alone is insufficient to increase the number of women who choose VBAC. Thematic analysis of focus group discussions revealed that women's preferences were influenced by factors other than knowledge of clinical risks and benefits and included personal factors such as their experiences of labor, their care providers' recommendations, and family members' opinions. Women's sense of self-efficacy—perceived ability to have a planned VBAC—impacted their choices. Although most participants preferred the option of VBAC, some intended to plan a repeat cesarean because they did not feel capable of having a vaginal birth, a perception that was reinforced by information from care providers and family.

We observed findings similar to those of other studies that have measured the effect of information tools on women's knowledge of VBAC risks and benefits and intention to plan a VBAC. In a prospective multicenter randomized trial involving 227 pregnant Australian women approaching birth after cesarean, use of the patient decision aid was associated with a 2.17-point increase in knowledge scores out of 15, $p < .001$, 95% CI [1.71, 2.63], and no significant difference in preference for VBAC or elective repeat cesarean between intervention and control groups (Shorten, Shorten, Keogh, West, & Morris, 2005). In a similar trial involving 742 pregnant U.K. women approaching birth after cesarean,

information alone and decision analysis interventions were associated with increased knowledge of risks and benefits in comparison to usual care ($p < .001$), but the authors did not measure impact of the tool on participants' intentions to plan a VBAC (Montgomery et al., 2007).

Themes arising from analysis of focus group discussions are consistent with those found in previous studies on decision making for birth after cesarean. Interviews conducted by Bryant and colleagues in Australia found that women's preferences for mode of birth fluctuate over time and are based on a complex process of weighing multiple, competing risks and benefits. Like Bryant and colleagues, we observed that although women valued vaginal birth, many were leaning toward repeat cesarean because of the recommendation of physicians (Bryant, Porter, Tracy, & Sullivan, 2007). Farnworth and Pearson conducted semistructured interviews with 11 pregnant women from Northeast England who had made the decision regarding mode of birth after cesarean (Farnworth & Pearson, 2007). English women indicated that they made the decision autonomously with advice and information provided primarily by obstetricians as well as from friends, family, health-care practitioners, television, and books. Similarly, women in our study described receiving recommendations and advice from friends and family members, which influenced their preferences for mode of birth. Finally, Emmett and colleagues conducted qualitative interviews with 21 English women who had given birth by either VBAC or elective repeat cesarean and found that women were not provided with specific and comprehensive information about the risks and benefits of mode of birth (Emmett, Shaw, Montgomery, & Murphy, 2006). Similarly, many women in our study had not encountered quantitative risk estimates on the likelihood of experiencing the risks and benefits of VBAC prior to reading our pamphlet.

Findings from our questionnaire and focus group discussions indicated that the pamphlet had no impact on women's intentions to plan a vaginal birth in the future. This lack of effect is consistent with previous evaluations of decision support interventions for mode of birth after cesarean (Horey, Kealy, Davey, Small, & Crowther, 2013; Say, Robson, & Thomson, 2011; Vlemmix et al., 2013). In our study, some women expressed uncertainty about their intentions for mode of birth, whereas others were confident in their choice. We additionally found from focus groups discussions that some women who preferred vaginal birth would plan a repeat

elective cesarean to avoid the uncertainty of labor, to avoid an emergency cesarean, and/or based on the advice of their care provider. These findings suggest that information on the clinical risks and benefits of VBAC may make women's decisions for birth after cesarean more *informed*, but that information alone is not enough to change women's preferences for birth after cesarean. The *Maternity Experiences Survey*, conducted with a representative sample of Canadian childbearing women, found that women perceive care providers to be the most useful source of information in pregnancy (Bartholomew, 2009). Some women in our study received information from care providers that was not evidence based; however, they perceived the information to be useful and trustworthy. Our pamphlet may assist care providers in communicating accurate information to their patients on the risks and benefits of mode of birth. Future studies may explore if information pamphlets have a greater impact on women's intentions to plan a VBAC if they are presented by their care provider and discussed in the immediate postpartum after the primary cesarean.

Limitations

The experiences of participants may not reflect those of women in other jurisdictions, where hospitals may have different VBAC policies. The focus groups were held in hospital catchments that had access to surgical services within 30 minutes or less, which is consistent with SOGC guidelines for planned VBAC. Women who reside in rural, low-resource settings would likely receive different information from care providers on their eligibility for planned VBAC, based on the limited health services available in their community (Kornelsen & Grzybowski, 2012). In addition, 69% of women responded on the post-test questionnaire that they would plan a VBAC for future pregnancies, but 94% of women expressed in focus groups that they valued vaginal birth. From the data we collected, it is unclear whether some women were undecided about mode of birth, if they would plan a repeat cesarean in spite of having a preference for VBAC, and/or if their preference changed through the course of the focus group. To better understand women's preferences, we could have included a response category for "undecided" for the question, "For your next child would you consider a vaginal birth?" Finally, participants who were pregnant and approaching their next birth may have had more stable preferences for mode of birth in comparison to those who had only recently given

birth by cesarean. Women's preferences for mode of birth are open to change even in the first trimester (Shorten & Shorten, 2014), and participants who were in their second or third trimester may have been more confident in their decision, which would lessen the impact of the pamphlet on intention to plan a VBAC.

Implications for Practice

Care providers and childbirth educators can use this evidence-based pamphlet in discussions about mode of birth with women. In these discussions, care providers and childbirth educators may also ask women to share their fears and preferences regarding mode of birth so that shared decisions may incorporate both the clinical evidence and patient preferences (Weston, 2001). Our findings may also encourage the development of interventions for after the primary cesarean to reduce women's fears of vaginal birth and to educate family members about the risks and benefits of VBAC.

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