Evaluation of a next birth after caesarean antenatal clinic on women’s birth intention and outcomes, knowledge, confidence, fear and perceptions of care

Tracy Martin1 RM, BSc. Yvonne Hauck2 PhD, RM. Jennifer Fenwick3 PhD, RM. Janice Butt4 MA, PGCEA, ADM, RM, RN, FACM. Jennifer Wood5 MSc, PG, BSc.

1. Principal midwifery advisor, Nursing and Midwifery Office, Department of Health, 189 Royal Street, East Perth, Western Australia 6004. Email: tracy.martin@health.wa.gov.au
2. Professor of midwifery, Department of Nursing and Midwifery Education and Research, King Edward Memorial Hospital and School of Nursing and Midwifery, Curtin University, GPO Box U1987, Perth, Western Australia 6845. Email: y.hauck@curtin.edu.au
3. Professor of midwifery and clinical chair, Gold Coast Hospital and Griffith University, Logan Campus, University Drive, Meadowbrook, Queensland 4131 Australia. Email: j.fenwick@griffith.edu.au
4. Associate director midwifery, School of Nursing and Midwifery, Curtin University, GPO Box U1987, Perth, Western Australia 6845. Email: j.butt@curtin.edu.au
5. Bachelor of science (midwifery) coordinator, School of Nursing and Midwifery, Curtin University, GPO Box U1987, Perth, Western Australia 6845. Email: j.wood@curtin.edu.au

Funding support was from the Nursing and Midwifery Office, Health Department of Western Australia and the Western Australian Nurses Memorial Charitable Trust. For further tables and figures, visit: rcm.org.uk/ebm

Abstract

Aim. In 2008, a Western Australian maternity hospital began a next birth after caesarean (NBAC) service to improve the quality of care offered to pregnant women who had experienced a caesarean section (CS) in a previous pregnancy. The aim of this study was to evaluate the NBAC service at three time points (booking visit, 36 weeks' gestation and six weeks postnatal) to determine changes in childbirth fear, confidence, knowledge and intention to pursue a vaginal birth after caesarean (VBAC), compared to those women receiving standard antenatal care.

Method. A comparative descriptive study design was implemented following receipt of ethical approval from the study hospital. A total of 47 women who attended the NBAC service for their antenatal care and a comparison group of 45 women who attended the main hospital clinic were recruited. Descriptive statistics, chi-square and t-test analyses were used. Women provided additional qualitative comments at 36 weeks and six weeks postnatal regarding their perceptions of care, which were analysed using content analysis.

Results. At recruitment, the comparison and NBAC groups were comparable for demographic variables and birth intention. Birth outcomes were not different with 15 out of 25 comparison women (60%) achieving their desired VBAC, compared to 20 out of 34 NBAC women (58.8%). At 36 weeks' gestation, NBAC women had increased knowledge of behavioural techniques to assist with labour and birth (p=0.0004) and higher self-efficacy (confidence) scores (p=0.011). There were no differences in terms of childbirth fear with both groups reporting high mean childbirth fear scores. Content analysis highlighted the positive and negative aspects of women's antenatal care experiences.

Implications. Findings suggest that providing pregnant women who had experienced a previous CS with evidence-based information about birth options did increase their knowledge, confidence and satisfaction with care. Childbirth fear levels were high for both groups and midwives with appropriate skills may be ideally placed to provide counselling intervention in conjunction with antenatal care.

Key words: Caesarean section, childbirth fear, childbirth knowledge, midwifery-led care, next birth after caesarean, vaginal birth after caesarean, VBAC, evidence-based midwifery

Introduction

The caesarean section (CS) rate in Western Australian (WA) in 2010 was 33.6% and for those women who had a prior CS, 86.3% had a repeat CS, with 10.1% having a vaginal birth after caesarean (VBAC) (Joyce and Hutchinson, 2012). This is despite evidence that suggests between 60% to 80% of women who had a previous lower segment CS should be able to give birth vaginally in their subsequent pregnancy (Hamilton, 2011; Guise et al, 2010; McGrath and Ray-Barruel, 2009; Stamilio and Shanks, 2008).

Women experiencing a CS are more likely to be disappointed, distressed or dissatisfied with this mode of birth (Lobel and DeLuca, 2007; Humenick, 2006; Fenwick et al, 2003). CS is associated with increased risk to baby and mother. Complications include: infection, injury to organs, haemorrhage, death and respiratory distress and injuries in babies (Lobel and DeLuca, 2007; O’Leary et al, 2007). These complications can impact on the emotional and psychological wellbeing of the woman, influencing her transition to parenthood, family functioning and childhood development (Lobel and DeLuca, 2007). Moreover, the financial cost of unnecessary intervention to families, communities and the health system in Australia is unsustainable (Druzin, 2006).

As the CS rate has increased, so too has consumer concern. In WA, Birthrites – Healing After Caesarean Incorporated has been driving a maternity reform agenda to improve options and services to women following CS. In 2006, Birthrites facilitated a forum to bring together maternity health service providers, WA health representatives and consumers. The outcomes formed the basis of a governmental policy, Improving maternity services.

(Department of Health WA, 2007), to introduce a policy framework to improve women's childbirth experiences and reduce the CS rate, and, in particular, planned repeat CS. In response to consumer and governmental concern about the rising CS rate and lack of services for women wanting a VBAC, an innovative clinical practice initiative – the next birth after caesarean (NBAC) service – was developed and began at WA's only tertiary public maternity hospital in 2008.

The NBAC antenatal service
Pregnant women, who have experienced one previous CS, are booked into the NBAC clinic at 14 to 16 weeks' gestation. Time is allowed for women to talk through their last birth experience and express their feelings, thoughts and concerns. Women also receive an evidenced-based information package about birth after a previous CS. Women's care remains in the NBAC clinic, regardless of their choice to have a repeat elective CS or to pursue a VBAC, unless specialist medical care is indicated. NBAC women attend two medical reviews where options, such as CS and VBAC, are discussed and decisions around birth choice are recorded. To facilitate continuity of care, women's appointments are scheduled to facilitate exposure to the same team of two to three midwives throughout pregnancy.

Method
This study aimed to evaluate the NBAC antenatal service at three time points (booking visit, 36 weeks' gestation and six weeks postnatal) to determine if NBAC women demonstrate a change in childbirth fear, confidence, knowledge and intention to pursue VBAC in the current pregnancy, compared to women who received standard antenatal care. An electronic database search to obtain relevant literature for the background and methods included: CINAHL, PubMed, ScienceDirect, Medline and EBSCO. Terms used included: CS, VBAC, fear, satisfaction, knowledge, and confidence (within the childbirth context). Permission to conduct the study was granted from the study hospital human research ethics committee (1469/EW).

Pregnant women who had experienced one previous CS were eligible to participate. Sequential sampling was employed with the comparison group being recruited six to eight months prior to the establishment of the new NBAC service, in order to avoid any bias. Recruitment and data collection for the NBAC group began four months after the service had started.

The recruitment procedure was identical for both groups. Eligible women were conveniently recruited on arrival for their antenatal booking appointment. All women were offered an information letter and signed a consent form prior to receiving a data collection package with a reply paid envelope. The second data collection point was at the woman's 36-week antenatal appointment, where the same data collection package was distributed. Finally, at six weeks postnatal, all participants were contacted and data was collected verbally by telephone.

Prior to the NBAC service, 75% of women at the only tertiary maternity hospital in WA chose a repeat CS. The rationale behind the authors' sample size calculation focused upon whether the emotional and information support provided through the NBAC service could better inform women of all birth options, thereby increasing the percentage of women considering a VBAC option. To determine a 25% point increase in the number of women identifying an intention to consider vaginal birth in a subsequent pregnancy, which may be optimistic; a sample size of 38 women per group was recommended (two-sided test, alpha of 0.05, desired power of .80). The authors accounted for up to 20% for loss to follow-up and aimed for 70 per group.

Survey package
The survey package included a number of validated instruments. A demographic questionnaire collected information such as age, educational level, ethnicity, language spoken at home, income and marital status. At booking and 36 weeks' gestation, women were asked to record their intended or preferred mode of birth – VBAC, CS or unsure. Obstetric data relating to birth outcomes (mode of birth) were collected from medical records.

The Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) was used to measure childbirth fear and administered across all time points (reliability=0.87) (Wijma et al, 1998). Confidence for birth was measured by the Childbirth Self-Efficacy Inventory (CBSEI) with reliability coefficients above 0.90 (Drummond and Rickwood, 1997). Finally, a 'satisfaction with service' survey developed by the NBAC midwives to determine women's satisfaction with care was piloted for validity with 15 pregnant women.

Data analysis
Descriptive statistics were computed for continuous data, such as age. Categorical post-intervention variables, such as childbirth fear (high/low), were compared using the chi-square test and Yates correction for small numbers, as appropriate. For continuous variables, independent samples student t-tests were used. Data analysis was conducted using SPSS (version 15). Statistical significance was determined to be a p-value of <0.05. An open-ended question seeking women's preference or intention of birth mode was included. Qualitative comments provided by women on the questionnaires or during postnatal telephone follow-up at six weeks were recorded in field-notes and analysed using content analysis (Maltby et al, 2010).

Results
An initial 144 women were recruited, although retention across the three time periods was insufficient to achieve the desired power. A summary of the recruitment process with follow-up numbers is provided in Figure 1. At booking, the comparison and NBAC groups were comparable in terms of age, education, income level and place of birth.

At booking, 72.3% (n=34) of NBAC women indicated...
a preference for a VBAC, compared to 55.6% (n=25) in the comparison group (p=0.18). Similar numbers in both groups reported being unsure of their intended birth mode (17.7%; n=8 comparison and 14.9%; n=7 NBAC). At time two (36 weeks' gestation), 80% (n=24) of NBAC women, compared with 56.3% (n=18) of the comparison group wanted a VBAC at 36 weeks, whereas 12.9% (n=4) of NBAC women wanted a repeat CS, as opposed to 34.4% (n=11) of comparison women (p=0.21). Birth outcomes collected from the women's medical records revealed that for the 25 women in the comparison group who wanted a VBAC, 60% (n=15) were successful. Likewise for the 34 NBAC women who intended to have a VBAC, 58.8% (n=20) achieved their goal (p=0.98).

One goal of the NBAC service was to increase women's knowledge and understanding of childbirth. At booking, both groups had similar levels of childbirth knowledge and similarities were found in how detailed women felt their knowledge was. However, by 36 weeks' gestation, there was a difference with NBAC women (81.8%; n=27) having more knowledge of behavioural techniques that may be used to help cope during labour or birth compared to comparison women (50%; n=17) (p=0.00).

Women from both groups reported high levels of childbirth fear (defined as a score >60) at booking, 36 weeks' gestation and six weeks postnatally. Mean scores ranged between 70 and 81. Although there was a decrease in the fear scores for the NBAC group at 36 weeks' gestation, this was not statistically significant (p=0.94). When fear scores were compared with other variables, such as age, place of birth, parity and birth intention, no significant relationships were found in either group. While there were some slight differences between the two groups; total mean self-efficacy (confidence) scores between groups and across time points revealed no significant differences. However, within the groups, there was a significant increase in childbirth self-efficacy (confidence) in the NBAC group (p=0.01) at 36 weeks' gestation compared to the comparison group (p=0.14). There was no difference within the groups in relation to outcome expectancy.

Comparison of satisfaction results revealed no significant differences between the two groups on levels of midwifery reassurance, helpfulness, confidence and support provided. However, women in the NBAC consistently scored these items as more favourable.

Perceptions of care
At 36 weeks' gestation, 29 women (31.5%) wrote unsolicited comments on the back, or in the margins of the questionnaires (14 comparison and 15 NBAC women). A further 18 women made comments to the researcher during the telephone follow-up six weeks postnatal (eight comparison and 10 NBAC women), which were captured in field-notes and analysed using content analysis.

Women from the comparison group at 36 weeks' gestation (n=14) stated that they often felt 'ignored' by care-givers during pregnancy. Women commonly used phrases including 'not being listened to', 'not being spoken to' or 'not acknowledged'.

They struggled to understand what was happening to them or why certain decisions were being made. Perceptions of being afforded 'no choice' or 'control' featured in these women's stories, with one woman writing that she felt 'dictated to'. Statements regarding labour and birth experience were generally negative. Women talked about being 'frightened', 'scared', 'anxious' or in a state of 'panic'. Terms such as 'petrified', 'unnerving' and 'freaked out' were common. Women wrote how distressing it was to be separated from their partner and/or baby if they had a CS.

At six weeks postnatal, the eight women from the comparison group who commented on their experience used terms such as 'let down', 'weak' (for having a CS), a 'failure', 'disappointed', 'ambivalent', 'ripped off', 'guilty' (for not succeeding at vaginal birth) and 'frustrated'. Two commented on feeling 'empowered' and having a 'good experience'. Another two indicated 'CS was not too bad' and would consider having another. Despite the concerning statements, six women commented on the care from midwives, which they called 'fantastic', 'great', 'wonderful' and 'brilliant'.

In contrast, comments from NBAC women at 36 weeks' gestation (n=15) suggested differences in their experience. Women mentioned how NBAC midwives were 'supportive' and 'on the same page', when describing their relationship.
At six weeks postnatal, 10 NBAC women said they noticed a change when admitted to the labour and birth suite. Women felt that some midwives had no confidence in women’s ability to achieve a VBAC and believed the women would fail. Some felt they were being criticised and ‘judged’ by the midwives because they were attempting VBAC. Five NBAC women who achieved VBAC stated ‘being proud’, ‘feeling ecstatic’, having ‘an amazing experience’ and ‘feeling clever’. The three who had a repeat CS described being ‘in control’ and ‘having knowledge’.

**Discussion**

The results of the evaluation of the NBAC antenatal services to a comparison group revealed an increase in childbirth knowledge and confidence at 36 weeks’ gestation. While the findings could not demonstrate the NBAC antenatal service made a difference to the birth intention of women who were unsure of their birth mode early in pregnancy; the findings support other research. Shorten et al (2005) conducted a randomised controlled trial of 227 (control group n=112, intervention group n=115) pregnant women conducted in Australia. Intervention women were given a decision-aid booklet at 28 weeks’ gestation, describing the risks and benefits of elective repeat CS and VBAC. Results indicated that women in the control group who were unsure of their birth intention remained unsure at 36 weeks’ gestation. However, despite the reduction in decisional conflict for the intervention group and the increased VBAC intent at 36 weeks, the women’s birth intent was not consistent with actual birth outcomes for many women. These same results are reflected in our findings, with similar numbers of women from both groups achieving a VBAC.

Other factors, such as the professional discourses around VBAC, can influence women’s intention to pursue VBAC (Fenwick et al, 2007). While more women in the NBAC group intended to have a VBAC, similar numbers from both groups changed their mind from VBAC, or being unsure to CS, after the 36-week obstetric visit. Medical advice remains a key factor for many women in relation to influencing their childbirth choices. The amount and type of information doctors provide to pregnant women can significantly impact the CS rate (Landon, 2008). In a study by Dodd et al (2004), 40% of women indicated they would make their decision about mode of birth after considering the opinion of their doctor. McGrath et al (2010) support this view and suggest that if the health professional providing care to the women is hesitant in recommending VBAC, the women will opt for repeat elective CS.

It was hoped, as others have suggested (McGrath et al, 2010; Frost et al, 2009; Farnworth et al, 2007; Shorten et al, 2005), that by providing women with structured evidence-based information and increasing their knowledge about childbirth, the NBAC service could counteract the negativity around VBAC. While NBAC women demonstrated increased childbirth knowledge at 36 weeks’ gestation, this did not translate into improved VBAC rates.

Antenatal continuity of care also did not appear to make a difference, which contrasts with the work of Farnworth et al (2007). In Farnworth et al’s study (2007), 32 women in the intervention group received standard care plus a DVD at 12 weeks and a visit at home by a known midwife at 30 weeks’ gestation. Women in the intervention group felt able to work through their previous birth experiences with the midwife, which increased their birth knowledge about choices. They also described positive effects in relation to deciding mode of birth, particularly in terms of emotional support, knowledge and confidence.

While the NBAC women demonstrated an increase in childbirth knowledge, this knowledge was not associated with decreasing fear levels. In fact, results from both groups in this study revealed high levels of fear with no women recording low levels. Rather than increasing knowledge alone may not reduce fear. Childbirth fear has been recognised in numerous studies (Rouhe et al, 2009; Farnworth and Pearson, 2007; Fenwick et al, 2007; Lobel and DeLuca, 2007; Nilsson and Lundgren, 2007) as a consequence of a traumatic birth experience which includes emergency CS (Koo et al, 2003). A strong association between previous birth experiences and fear of childbirth in subsequent pregnancies was reported in Sweden and Finland (Rouhe et al, 2009).

One possible reason why the NBAC evaluation differs from other evidence around childbirth fear interventions, could be that the NBAC midwives were not adequately prepared to assess or counsel women who were fearful of childbirth and may have had a previous traumatic birth experience. It has been suggested that Norwegian women with fear of childbirth and associated request for CS did not really want to be delivered by CS, but rather wanted assistance to become mentally prepared to give birth vaginally (Nerum et al, 2006). In fact, 86% of the women changed their mind from CS to vaginal birth following counselling and talking through their experiences with trained midwives and psychologists. The request for CS by women who have fear of childbirth may be a crisis reaction to a previous unresolved traumatic experience and, while the NBAC evaluation did not reveal any difference in the levels of fear based on birth intention, further research is needed to explore potential associations between fear of childbirth and feelings of control and self-efficacy.

The impact of a woman’s birthing experience on her level of childbirth confidence has not been well researched. Much of the research centres on childbirth fear, with limited reference made to confidence and satisfaction (Nilsson and Lundgren, 2007; Lundgren, 2005). Findings from a phenomenological study of women who experienced severe fear of childbirth suggest that women’s confidence in giving birth may be lost because of their attitude to childbirth (Nilsson and Lundgren, 2007) as these women felt the need to meet their own expectations and those of other people. If they were not able to meet the expectations, they felt they had failed. However, the NBAC evaluation only took into account continuity of care during pregnancy rather than across the continuum of care. What was not known was the amount of control, level

---

of support and type of relationship the woman had during her birth experience. Nonetheless, NBAC women were still more confident at 36 weeks’ gestation and highly satisfied with their antenatal care.

Limitations

This study only evaluated a service in a model providing continuity of antenatal care, rather than care across the pregnancy and birthing continuum. Our recruitment and retention of women across the three data collection periods would suggest our results need to be interpreted with caution. Future researchers should consider participant burden, such as the number of questionnaires women are asked to complete. The NBAC antenatal package consisted of multiple surveys, which could have been overwhelming plus it may not have been convenient or practical.

Conclusion

Our results suggest that pregnant women who had experienced a previous CS and received care through the NBAC antenatal service demonstrated increased childbirth knowledge and confidence at 36 weeks’ gestation.

References


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.