ARTICLE

MIDWIFERY CARE FOR WOMEN PLANNING VAGINAL BIRTH AFTER CAESAREAN: A SURVEY OF ONTARIO MIDWIFERY PRACTICES

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ABSTRACT

Due to new evidence, the safety of vaginal birth after Caesarean (VBAC) is again generating controversy in maternity care. A survey of midwifery practices was undertaken to determine midwifery practice patterns and the factors that influence their care of women with a prior Caesarean birth. A two-part questionnaire, pertaining to practice characteristics and VBAC care, was mailed to all 40 Ontario midwifery practices. Data from closed-ended questions were analysed using SPSS, while open-ended responses were examined for common themes. A survey response rate of 92.5% was obtained. While 73% of practices that responded reported that they will not accept women with more than one lower segment Caesarean birth into care, 65% indicated that they will attend home births for women with one prior Caesarean birth. For practices that do not attend women with a prior Caesarean birth at home, prohibitive hospital policies (64%) and lack of obstetrical support (86%) were the most frequently reported reasons. Concern about increased risk and lack of experience were also identified. Variations in practice patterns do not appear to be related to geographic practice characteristics. The survey has identified some of the factors that influence how Ontario midwives care for women with a prior Caesarean birth. Hospital policies and support from consultant obstetricians appear to have a greater impact on midwifery care for women with prior Caesarean birth than midwives' perception of increased risk or lack of experience.

KEY WORDS
VBAC, Caesarean, midwifery, policy

THIS ARTICLE HAS BEEN PEER-REVIEWED

BACKGROUND

As Caesarean section rates increased throughout the 1970s and 1980s in North America, vaginal birth after Caesarean (VBAC) became an important way to reduce the Caesarean section rate. Today, up to 60% of women with prior Caesarean births plan a VBAC for their subsequent pregnancy.[1] VBAC is a term coined by childbirth activist Nancy Wainer Cohen.[2] It reflects the combined effort of consumers, health professionals and governments to increase women's control over their reproductive bodies and improve perinatal outcomes while reducing health care costs.[3-5] According to the College of Midwives of Ontario (CMO), midwives can provide care for women planning a VBAC after one prior lower segment Caesarean section without a physician consult and a prior Caesarean section is not an indication to rule out a home birth.[6] Women planning a VBAC may seek midwifery care due to perceived low rates of intervention and the informed choice model of care.

The Society of Obstetricians & Gynaecologists of Canada (SOGC) issued a policy statement regarding vaginal birth after Caesarean in 1997.[7] The statement indicated that a vaginal birth should be recommended to all women with a prior lower segment Caesarean section. The risk assessment guidelines outlined on the Ontario Antenatal Record classify a pregnancy for a woman with a prior lower segment Caesarean section to be risk category "A" or low risk.

Recent research has renewed the controversy around VBAC safety and we wondered how midwifery practices interpreted the established VBAC guidelines in light of this new evidence. A survey of Ontario midwifery practices was undertaken to determine midwives' actual practice patterns and the factors that influence their care. This study was not intended to evaluate the safety of vaginal birth following a Caesarean birth.

METHODS

Forty surveys with return envelopes were mailed to all of the midwifery practices in Ontario in May 2001. Consent to participate was assumed by the subjects' voluntary return of the completed questionnaire. A brief letter of introduction was attached, which included how to contact the investigators. Instructions were posted on the questionnaire. After two months, a reminder letter was sent to those practices that had not yet returned their questionnaires. The entire practice was represented in each survey rather than having individual midwives complete a survey. This was done because it was believed that midwives within a group practice follow the same practice protocols and hospital policies.

The survey had two parts. The first contained questions regarding practice characteristics, midwifery care and VBAC. The practices were asked to classify their practice location as rural, urban or combined rural/urban. The second part of the survey addressed VBAC policies at the hospitals where the midwives had privileges. The survey made a distinction between the care of women who had undergone one lower segment Caesarean section and those who had experienced two or more Caesarean deliveries.

The quantitative data from the returned surveys was entered and analyzed by a research assistant who had no knowledge of midwifery in Ontario. The surveys were entered into two separate databases; one for hospital information and one for midwifery practice information. The data were analyzed using SPSS (statistical package for social sciences). Frequencies and descriptive statistics, including central tendencies (mean, median and mode), were obtained for each of the survey questions. Cross tabulations were constructed on 2 x 3 tables and were used to compare the different regions (rural, urban and combined) with other factors. They were also used to discover if any significant differences occurred between the pairs of variables. Since some of the questions contained missing data (the midwives did not complete a question) percentages used in the table were calculated by excluding the missing data. Small amounts of qualitative data were obtained. Qualitative items were available for midwives to explain or expand upon a quantitative item on the questionnaire. These qualitative data were entered into a word processing file, numbered and then sorted to identify common themes.

Limitations of the survey include:

- it was completed by one practice member and may not be representative of the entire practice,
- it was not anonymous; both practices and hospitals were identified,
- it was based on self reports, which may be inaccurate, and
- the researchers are both members of a small midwifery community, which could influence the responses

RESULTS

Description of Survey Population

Of 40 midwifery practices currently located in Ontario, 37 responded to the survey. This represents a 92.5% response rate. There were no exclusions. Surveys were generally complete and the information was appropriate, although there were several unanswered questions. The practices were asked to describe their primary hospital as a tertiary care centre, secondary care (level 2) or primary care facility. Twenty-two percent reported their hospital to be tertiary care, 60% secondary care and 18% a primary care facility. Forty-three percent (16) of the practices reported that they had privileges at two hospitals, 11% reported privileges at three hospitals. Of the practices that responded to the survey, 8% identified their geographic practice location as rural, 27% as urban and 65% as a combination of rural and urban catchment areas.

Practice Patterns

The data show non-significant variations in practice patterns in Ontario. Table 1 shows that, of the 37 practices responding to the survey, 35% (13) had developed a written protocol for the care of women who were planning a VBAC birth. Several practices indicated that they were in the process of developing or revising their protocols and were currently using hospital protocols. Thirty-four percent of practices surveyed reported that they provide written material to clients who are planning a VBAC. Over 86% of the practices reported that they routinely request previous operative reports for women planning a VBAC birth. In the qualitative comments practices reported that one reason for not obtaining an operative record was because the previous birth occurred in another country and the birth records were not accessible.

TABLE 1: MIDWIFERY CARE FOR WOMEN WITH ONE PRIOR CAESAREAN BIRTH (n=37 practices)

n=37	Number	Percent
Written VBAC protocol	13	35%
Request OR record	32	86.5%
Offer home birth	20	54%
Attend home birth	24	65%
Give written information	12	32%

The survey distinguished between "offering" a home birth as an option for women with a prior Caesarean and "attending" home births. When practices were asked if they offer home births to clients who have had a previous Caesarean birth, only 20 of 37 practices (54%) responded that they did. None of the rural practices offer home birth to a woman planning a VBAC. The reasons reported for not offering women with a prior Caesarean birth a home birth are summarized in Table 2. Twenty-four of 37 (65%) practices responded that they attend home births for women planning a VBAC birth at home. Of those midwives who attend

TABLE 2: REASONS FOR NOT ATTENDING VBAC BIRTHS AT HOME (n=14 practices)

n=14	Number *	Percent
Lack of obstetrical support	12	86%
Hospital policies	9	64%
Distance from hospital	6	43%
Increased risk	6	43%
Lack of experience	2	14%

** midwives may have indicated more than one reason*

VBAC births at home, one practice indicated that VBAC home births would only be attended if the birth was precipitous and there was no time for a safe transfer to hospital in labour. Among rural practices, the rate was much lower. Most practices reported that a home birth would be agreed to only following a thorough informed choice discussion. Prohibitive hospital policies and a lack of obstetrical support were reported by nine (64%) and 12 (86%) (respectively) of the 14 midwifery practices that do not attend VBAC home births. Distance from the hospital was reported by six of 14 (43%; 100% of rural practices) and a concern of increased risk by six (43%). Two practices (14%) indicated that they lacked the clinical experience to feel comfortable attending VBAC births at home.

The midwifery practices were surveyed regarding their clinical practice for women who have experienced more than one prior Caesarean section. These data are summarized in Table 3. Only five of 37 practices (15%) reported that they would attend women with more than one prior Caesarean section at home, while eight (22%) reported that they offer home birth. This confusing data was explained in the qualitative comments. Some practices initially offer choice of birthplace to all women in their care, but then screen out those with risk factors from planning a home birth. Only four practices reported that they had developed a written practice protocol for the care of women with more than one lower segment Caesarean section. Table 4 shows the responses of the 10 practices (27%) that do not accept women into care if they have had more that one Caesarean delivery. Of these practices, 90% indicated that prohibitive hospital policies and 80% reported that consultant obstetricians did not support midwifery care for women with more than one Caesarean. Seven practices (70%) reported that a transfer of care was required for women who have undergone more than one lower segment Caesarean section. Table 5 summarizes the reasons practices do not attend home births for women who have more than one prior Caesarean birth.

Midwives working in rural areas face special challenges and all rural practices cited distance as a factor in their decision not to offer women planning a VBAC a home birth. The rural practices commented that their ability to care for women with a prior Caesarean section was affected by the limited resources of rural and remote jurisdictions. In some cases, women are transferred to a Level II centre and out of midwifery care if surgical support is not available at the local hospital.

Hospital Policies

An antenatal consult for women with a prior Caesarean birth under the care of a midwife was required at 15 of 52 hospitals (27%) where midwives practice. Special policies such as continuous electronic fetal monitoring, intravenous therapy, and food and fluid restrictions were also required in some hospitals. These data are summarized in Table 6. Twenty-eight percent of hospitals restrict a woman from labouring at home with her midwife in attendance and limit the length of labour. It was reported that one hospital policy requires an intrapartum transfer of care if the midwife has permitted any of the labour to occur outside the hospital.

DISCUSSION

The responses to the survey indicate that 65% of Ontario practices will attend a home birth for a woman with one prior lower segment

TABLE 3: MIDWIFERY CARE FOR WOMEN WITH MORE THAN ONE PRIOR CAESAREAN BIRTH (n=37 practices)

n=37	Number	Percent
Will accept into care	27	73%
Written protocol	4	11%
Offer home birth	8	22%
Will attend home birth	5	13.5%

Caesarean birth. This is similar to earlier research in the United States where it was found that 73% of midwives accepted women for home birth if they had a previous Caesarean birth.[8] The slightly lower proportion in Ontario may be because of recent evidence about increased risk associated with VBAC. Fewer midwifery practices agree to attend women at home with more than one prior Caesarean (13.5% or five practices).

Of the14 practices (35%) that do not attend VBAC at home, two (14%) indicated that this decision was due to their own lack of experience with VBAC. A recent survey conducted by the Association of Ontario Midwives found that 27% of midwives reported they did not feel confident or competent with home birth.[9] It should be noted that the AOM survey involved individual midwives and the current survey was of midwifery practices. In addition, since 75% of midwives in Ontario have been practicing for five years or less, one might expect a greater number of practices to report lack of experience as affecting their practice regarding VBAC home birth.[9]

TABLE 4: REASONS FOR NOT ACCEPTING WOMEN WITH MORE THAN ONE PRIOR CAESAREAN BIRTH INTO MIDWIFERY CARE (n=10 practices)

n=10	Number *	Percent
Hospital policies	9	90%
Lack of obstetrical support	8	80%
Transfer of care	7	70%
Increased risk	3	30%
Lack of experience	3	30%

** midwives may have indicated more than one reason*

TABLE 5: REASONS FOR NOT ATTENDING VBAC BIRTHS AT HOME FOR WOMEN WITH MORE THAN ONE PRIOR CAESAREAN BIRTH (n=32 practices)

n=32	Number *	Percent
Increased risk	23	72%
Lack of obstetrical support	21	65%
Hospital policies	15	50%
Distance from hospital	12	37%
Lack of experience	7	22%

** midwives may have indicated more than one reason*

Most of the 14 practices not attending VBAC at home reported that restrictive hospital protocols and a lack of obstetrical support had an impact on their decision (64% and 86%). Midwives may be hesitant to disrupt their relationships with obstetricians and hospitals, which they may have taken considerable effort to develop and upon which they depend for consultation. A smaller proportion, 42%, indicated that their decision was due to increased risk associated with VBAC.

There is little research that examines midwifery care for women with a prior Caesarean birth. Two studies, one retrospective, the other a prospective, matched cohort, found that women without complications, other than a previous lower segment uterine scar, who received care from a midwife, had outcomes similar to other low-risk women.[8,10] However, both studies had very small sample sizes and therefore do not provide evidence regarding safety. In 1997, the SOGC reported the incidence of scar dehiscence to be 0.5% and maternal uterine rupture with serious consequences to be 0.1%, with fetal outcomes similar to those of other low risk pregnancies.[7] However, there has been a considerable amount of new research since the report and as a result the guidelines are being revised.

TABLE 6: HOSPITAL REQUIREMENTS
(Reported from 52 hospitals where midwives have privileges)*

Requirement	Number of Hospitals (N=52)	Percentage
Antenatal consult	15	27%
Intrapartum consult	8	16%
Continuous EFM	9	18%
Restricted labour at home	13	28%
NPO throughout labour	3	6%
Intravenous	14	28%
Epidural	1	2%
Limited length of labour	14	30%
No augmentation	6	13%
No induction	8	17%

** midwives may have privileges at more than one hospital*

In 2000, a meta-analysis examined the morbidity and mortality risks for mothers and babies that were associated with labour in hospital versus a policy of repeat Caesarean.[11] While there was no difference in maternal mortality rates, there were higher rates of hysterectomy and transfusion associated with a policy of elective repeat Caesarean section. Women who had labour were twice as likely to experience uterine rupture (0.4% vs 0.2%). VBAC women had lower rates of morbidity. There was a small increase in perinatal mortality and low five minute Apgar scores in the VBAC group.

In Scotland, a large retrospective cohort study found the risk of delivery-related perinatal death to be 0.13% for women with a prior Caesarean birth having a labour, versus 0.02% for a Caesarean birth.[12] While this is a significant increase, the perinatal death rate was very similar to the risk for nulliparous women (0.10%). In 2001, Lydon-Rochelle and associates conducted a retrospective analysis to examine the risk of uterine rupture for women having a VBAC. They found the rate of uterine rupture to be 0.52% for women with a prior scar who had spontaneous labours versus 0.16 for women who had a repeat Caesarean.[1] The risk increased significantly if labour was induced with prostaglandins. The data from this large population-based study should be viewed with caution as numerous methodological problems have been identified.[13] Because the data was obtained entirely from birth certificates and hospital discharge, the authors are unable to determine if they are dealing with a uterine rupture, an incidental dehiscence or a coding error.[13,14] All of these studies refer to VBAC in a hospital setting, and the findings are unlikely to be generalizable to VBAC labours or births conducted at home.

It has been estimated that a policy of elective Caesarean delivery after one prior lower segment Caesarean will incur one maternal death for every five neonatal lives saved and will cost more than two million dollars per adverse neonatal outcome averted.[15] Thus, improved neonatal outcomes may result in increased maternal mortality and immense economic consequences. This study was conducted in the United States and therefore the actual cost in a Canadian context will be different.

CONCLUSIONS

This study surveyed the entire population of Ontario's registered midwives' practices and reflects midwives' experiences both in urban and rural areas throughout the province. It had an excellent response rate of 92.5% and was generally well completed. Therefore, we consider it to be representative of midwifery practices in Ontario. The care provided to women with a prior Caesarean birth varied among midwifery practices but was not

found to be statistically related to urban/rural differences. This may be due to the small sample size of practices that identify themselves as rural. However, fewer rural practices offer or attend home birth for women planning a VBAC.

It was found that hospital protocols and obstetrical support have the greatest impact on midwives' decisions about VBAC home birth. Concern about increased risk and lack of experience were also reported as factors that influenced clinical care of VBAC women. While VBAC is only one issue, it illustrates the complexity of factors that can influence clinical care, even when midwifery standards of care and nation-wide clinical practice guidelines exist. Although the survey provided an overview of midwives' experience in Ontario, it was not sufficient to completely address the topic. Several respondents commented that the situation was complex and multifaceted. Further research is needed to explore the factors that influence care, including research evidence, obstetrical policies and women's choice. In addition, there is a need for research that examines the clinical outcomes for women with a prior Caesarean birth who are under the care of a midwife.

AUTHOR BIOGRAPHIES

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REFERENCES

1. Lydon-Rochelle M, Holt VL, Easterling TR, Martin DP. Risk of uterine rupture among women with a prior cesarean delivery. N Eng J Med 2001; 345:3-8.
2. Cohen NW, Esther L. Silent knife. Massachusetts: Bergin & Garvey, 1983.
3. Indications for Caesarean section: Final statement of the panel of the National Conference on Aspects of Caesarean Birth. Can Med Assoc J 1986; 134:1348-52.
4. Sufrin-Disler C. Vaginal birth after Caesarean. International Childbirth Association, Educator's Association Review (ICEA Review), August 1990; 14(3).
5. Cesarean Birth Planning Committee, Ontario Ministry of Health. Appropriate use of cesarean section: Recommendations for a quality assurance program. Ontario: Queen's Park Press, 1991.
6. College of Midwives of Ontario. Indications for mandatory discussion, consultation and transfer of care. December 2, 1999.
7. Ash K et al. SOGC policy statement: Vaginal birth after previous Caesarean birth. J Soc Obstet Gynaecol Can 1997; 68:1424-8.
8. Murphy PA, Fullerton J. Outcomes of intended homebirths in nurse-midwifery practice: A prospective descriptive study. Obstet Gynecol 1998; 92:461-70.
9. Association of Ontario Midwives, Symposium 2001, Final Report. The model of midwifery care in Ontario. April 2002, 6-7.
10. Harrington LC, Miller DA, McClain CJ, Paul RH. Vaginal birth after cesarean in a hospital-based birth center staffed by certified nurse-midwives. J of Nurse-Midwifery 1997; 42(4):304-7.
11. Mozurkewich EL, Hutton EK. Elective repeat cesarean delivery versus trial of labor: A meta-analysis of the literature from 1989 to 1999. Am J Obstet Gynecol 2000; 183:1187-97.
12. Smith GCS, Pell JP, Cameron AD, Dobbie R. Risk of perinatal death associated with labour after previous cesarean delivery in uncomplicated pregnancies. JAMA 2002; 287:2684-90.
13. Flamm BL. Vaginal birth after cesarean and the New England Journal of Medicine: A strange controversy. Birth 2001; 28:4.
14. Weiss J, et al. Use of hospital discharge data to monitor uterine rupture, Massachusetts, 1990-1997. Morbidity, Mortality Weekly Report 2000; 49(12):245-8.
15. Grobman WA, Peaceman AM. Cost effectiveness of elective cesarean section after one prior low transverse cesarean section. Obstet Gynecol 2000; 95:745.