

## Accoucher près ou loin de chez soi?

### Facteurs affectant le choix du lieu d'accouchement

Barbara Zelek, MD, CCFP Eliseo Orrantia, MSC, MD, CCFP Heather Poole, MSC Jessica Strike, MD

#### RÉSUMÉ

**OBJECTIF** Examiner les facteurs qui font que les femmes décident d'accoucher dans des petites communautés rurales plutôt que dans des plus grands centres disposant de services d'obstétrique plus complets, incluant la possibilité de césarienne et d'épidurale.

**TYPE D'ÉTUDE** Enquête autoadministrée.

**CONTEXTE** Marathon, une localité rurale de 4500 âmes du nord-ouest de l'Ontario qui offre des services d'obstétrique à faible risque sans possibilité locale de césarienne. Le centre spécialisé le plus près est à 300 km, à Thunder Bay.

**PARTICIPANTES** Soixante-quatre femmes de 16 à 40 ans résidant à Marathon.

**PRINCIPAUX PARAMÈTRES À L'ÉTUDE** Importance relative des croyances et des facteurs personnels ou liés au système de santé dans la décision d'accoucher à Marathon plutôt que dans un plus grand centre. Niveau de connaissance des femmes sur les services locaux d'obstétrique. Probabilité qu'elles décident d'accoucher à Marathon en cas de grossesse à faible risque.

**RÉSULTATS** La décision dépendait davantage des croyances que des facteurs personnels ou reliés au système. Les répondantes connaissaient assez bien les services locaux d'obstétrique (les réponses étaient correctes dans une proportion moyenne de 66%). La plupart des femmes avec une grossesse à faible risque choisiraient d'accoucher à Marathon (77,8%).

**CONCLUSION** Pour les femmes de Marathon, les croyances sont beaucoup plus importantes que les facteurs personnels ou liés au système dans le choix d'accoucher dans cette petite communauté rurale.

#### POINTS DE REPÈRE DU RÉDACTEUR

- Les études antérieures ont montré que le choix d'accoucher en milieu rural, près de chez soi, plutôt que dans un centre urbain disposant de spécialistes est influencé tant par des facteurs personnels ou liés au système que par des croyances.
- Dans cette étude menée à Marathon, Ontario, on a examiné ces facteurs afin de déterminer leur influence sur le choix du lieu d'accouchement. On voulait aussi établir le niveau de connaissance des femmes sur les soins disponibles localement.
- Les femmes étaient assez bien informées sur les services de santé existants à Marathon, mais cela ne semblait pas influencer le choix du lieu d'accouchement.
- Le désir de maîtriser la situation influençait le choix; les femmes croyaient fermement qu'elles participeraient plus aux décisions à Marathon que dans un centre urbain.

Cet article a fait l'objet d'une révision par des pairs.  
Le texte intégral est aussi accessible en anglais à [www.cfpc.ca/cfp](http://www.cfpc.ca/cfp).  
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## Home or away?

### *Factors affecting where women choose to give birth*

Barbara Zelek, MD, CCFP Eliseo Orrantia, MSc, MD, CCFP Heather Poole, MSc Jessica Strike, MD

#### ABSTRACT

**OBJECTIVE** To investigate the factors that influence women to deliver their babies in small rural communities rather than in larger centres that have more comprehensive obstetric services, including cesarean section capability and epidural anesthesia.

**DESIGN** Self-administered survey.

**SETTING** Marathon, Ont, a rural community of 4500 in northwestern Ontario that offers low-risk obstetric services and has no local cesarean section capability. The closest referral centre, Thunder Bay, is 300 km away.

**PARTICIPANTS** Sixty-four women between 16 and 40 years old living in Marathon.

**MAIN OUTCOME MEASURES** The relative importance of personal and systemic factors and of beliefs that influence women to choose to give birth in Marathon rather than a larger centre. How well informed women are about local obstetric services. How likely women would be to choose to deliver in Marathon if they had low-risk pregnancies.

**RESULTS** Beliefs were more important than personal and systemic factors in influencing women's decisions. Respondents were moderately well informed about local obstetric services (mean proportion of correct responses was 66%). Most women with low-risk pregnancies would choose to deliver in Marathon (77.8%).

**CONCLUSION** For women in Marathon, beliefs are much more important than personal and systemic factors in influencing the decision to give birth in this small rural community.

#### EDITOR'S KEY POINTS

- Previous research has found that personal and systemic factors and women's beliefs influence whether they choose to deliver in rural settings close to home or in urban centres with specialist backup.
- This study in Marathon, Ont, looked at these factors to see how they influenced women's choice of place to give birth. It also tried to determine how well informed women were about the care available locally.
- Women were moderately well informed about the health care services available in Marathon, but this information did not seem to affect their choice of where to deliver.
- Women's sense of control influenced their decision making; they felt strongly that they would be more involved in decision making in Marathon than they would be in the city.

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It is well documented that, if patients are selected carefully, low-risk pregnant women can give birth safely in rural settings.<sup>1-3</sup> In fact, it is sometimes safer to do so than to seek care in urban centres.<sup>4,5</sup> Such findings are important for patients, as research has shown that women prefer to give birth close to home.<sup>6,7</sup>

Marathon, Ont, is a rural community in northwestern Ontario with a population of 4500. The hospital in Marathon is designated a level 1 facility. Specialist support is not available on-site, and intrapartum obstetric care is provided only for women without major risk factors. As long as pregnancies are low-risk, residents of Marathon are allowed full say in the decision on whether to deliver locally or in Thunder Bay, the nearest referral centre, which is 300 km away.

Obstetric services in Marathon have undergone substantial changes. In the past, cesarean sections were done. More recently, the obstetric program was closed twice, once owing to a shortage of physicians in the community and again owing to a shortage of nursing staff in the hospital. Obstetric services have been available continuously since 1996, except for one short closure for about 6 months.

On-call obstetric care for low-risk women has changed also. Currently, physicians take 1 month of obstetric call duty in rotation. Since the obstetric program reopened, about 50% of all pregnant women in Marathon have given birth there. This rate is within the range seen in other rural communities without cesarean capability.<sup>2,3,8</sup>

It is unclear what influences women's decisions about where they deliver. While the option is not offered to women with high-risk pregnancies, 25% of low-risk women in Marathon who do have the option still decide to give birth in a larger centre. Thus, it is important to determine how women who are allowed to make a decision regarding where they deliver go about making that decision.

Previous research has identified a range of personal and health care system factors that influence women's decisions around prenatal care in rural communities. Cost,<sup>7,9-11</sup> support of family and friends,<sup>12</sup> and the atmosphere of services and attitudes of medical and non-medical workers<sup>11</sup> have been shown to be important for women accessing medical care. Some of these factors might have a role in women's decisions about where they choose to deliver.

Other research has investigated the importance of women's beliefs in their decisions on accessing maternity care resources.<sup>13,14</sup> According to Johnson et al,<sup>15</sup>

beliefs are based on women's prior experiences and interactions with their health care providers. Beliefs are made up of both positive and negative experiences, attitudes, and values, as well as women's current perception of themselves and their concern for themselves and their infants.

No studies have focused on the personal and systemic factors that influence women's decisions to give birth in small rural hospitals rather than large urban facilities. Little is known about how their beliefs affect the decision. Although Omar and Schiffman<sup>16</sup> found that inadequate information about prenatal services was the main barrier to use of these services among low-income pregnant women in rural areas, little is known about how well informed rural women are about such services.

Considering these gaps in the literature, we planned to determine some of the personal and systemic factors and beliefs that affect women's decisions on where to deliver their babies. We hoped to determine how well informed women living in Marathon were about the obstetric services offered in the community and how this knowledge influenced their decisions about the obstetric care they sought.

## METHODS

### Setting

The study was done in Marathon, a community of 4500 people. Marathon has a level 1 hospital. A group of family physicians provides obstetric services for women with low-risk pregnancies.

### Participants

The survey was distributed to an opportunistic sample of women between the ages of 16 and 40 who came to the 2 local shopping centres during 4 days in August 2003 or who came to the local health clinic during a 2-week period in September 2003. All participants lived in Marathon or in the local hospital catchment area. Informed consent was obtained from each respondent; confidentiality and anonymity were assured.

### Materials

The survey, devised by the authors (2 community family physicians and 2 summer students), had questions based on ideas from the literature that were identified as affecting women's choice of prenatal care. Input and feedback from local physicians was also sought during creation of the survey. The survey was pilot-tested on a small group of women to assess face and content validity.

Survey questions were divided into 3 sections: influences, how well informed women were about local services, and how likely they were to choose to deliver

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**Drs Zelek and Orrantia** are family physicians at *Marathon Family Practice in Ontario*. **Ms Poole** is a doctoral candidate at *McMaster University in Hamilton, Ont*. **Dr Strike** is a family medicine resident at the *University of Ottawa in Ontario*.

in Marathon. The section on influences asked about the relative importance of various personal and systemic factors in women's decisions regarding obstetric care and how women's beliefs influenced their decisions. The relative importance of various influences was determined by calculating the mean scores of responses on a 4-point Likert scale. To assess how well informed women were, women were asked to check off on a list of obstetric services any they believed were offered in Marathon. Women's knowledge of local obstetric services was determined by calculating the number of correct answers on services offered and not offered divided by the total number of services listed. In the third section, respondents were asked how likely they would be to choose to deliver in Marathon.

Data were analyzed using the Statistical Package for the Social Sciences, version 10.0. Statistical significance ( $P < .05$ ) was tested using Pearson  $\chi^2$  analysis. The study was approved by the Lakehead University Research Ethics Board.

## RESULTS

Of all the women approached, two thirds agreed to participate in the study; 64 women completed the survey. Respondents ranged in age from 16 to 40 (mean age, 34). Women's age, marital status, and average family income were similar to those of women in the local population.

### Personal and systemic factors and beliefs

The most important personal and systemic factors identified were being close to home, being where it was easy for a partner to be present, and being where it was easy for a coach to be present. Least important were the availability of epidural anesthesia, care in a place that did a high number of deliveries, and cost. With respect to beliefs, the strongest belief was in the convenience of delivering in Marathon. Participants most strongly disagreed that first babies should be delivered in the city and that their partners believed they should deliver in the city (Tables 1 and 2).

### Knowledge of local obstetric services

Fifty-nine of the 64 respondents completed this section. How much women knew of local obstetric services (Table 3) ranged from 33% to 100%; mean number of correct answers was 66%.

Participants were best informed about the availability of emergency airlifts or ambulances to an urban care centre, pregnancy testing, ultrasound scans, and the availability of prenatal classes and prenatal care in Marathon. They knew least about the local availability of doulas, newborn resuscitation, vacuum extractors, maternal serum screening, and a whirlpool bath for use

**Table 1. Relative importance of personal and systemic factors in decisions about where to give birth: Rated on a 4-point Likert scale where 1—not at all important, 2—somewhat important, 3—important, 4—very important.**

FACTORS	MEAN SCORE
Closeness to home	3.42
Easy for partner to be present	3.41
Easy for coach to be present	3.21
Availability of neonatal intensive care unit	3.18
Availability of cesarean sections	3.12
Familiarity of health care workers	3.07
Time away from work and children	2.89
Availability of pediatricians	2.79
Availability of obstetricians	2.75
Expenses	2.60
Care in a centre with a high number of deliveries	2.59
Availability of epidural anesthesia in the city	2.41

**Table 2. Relative importance of beliefs in decisions about where to give birth: Rated on a 4-point Likert scale where 1—strongly disagree, 2—disagree, 3—agree, 4—strongly agree.**

BELIEFS	MEAN SCORE
It is more convenient to deliver in Marathon than in the city	3.26
Someone with previous complications should deliver in the city	3.13
I would be more involved in decisions in Marathon	2.95
It is safer to deliver in the city than in Marathon	2.58
My doctor would prefer that I deliver in the city	2.19
My partner would prefer that I deliver in the city	1.98
Women in their first pregnancies should deliver in the city	1.98

during labour. Twenty-seven women believed incorrectly that obstetricians were available locally.

### Choosing Marathon

Participants were also asked whether they would choose to deliver their babies in Marathon, a city, or elsewhere if their pregnancies were uncomplicated. Responses indicated that 77.8% of the women would choose to deliver in Marathon. Their level of knowledge about the obstetric services available in Marathon did not influence their responses ( $P = .166$ ).

Pearson  $\chi^2$  analysis was used to determine whether there was an association between how likely women

**Table 3. Services offered and not offered in Marathon**

OBSTETRIC SERVICES OFFERED IN MARATHON	
One-on-one nursing for mothers	
One-on-one nursing for babies	
Pain management	
Emergency airlift or ambulance to urban care centre	
Prenatal classes	
One-on-one doctor for mother	
One-on-one doctor for baby	
Same doctor for prenatal and delivery care	
Immediate postpartum breastfeeding support	
Baby and mother in same room postnatally	
Ultrasound	
Doulas	
Induction	
Newborn resuscitation	
HIV testing	
Private obstetric room	
Pregnancy testing	
Whirlpool bath during labour	
Prenatal care	
Vacuum extractor	
Maternal serum screening	
OBSTETRIC SERVICES NOT OFFERED IN MARATHON	
Obstetricians	
Midwives	
Cesarean sections	
Neonatal intensive care unit	
Forceps delivery	
Pediatricians	
Epidural anesthesia	
Water births	
Amniocentesis	

were to choose to deliver in Marathon and the relative importance of the various personal and systemic issues measured. No significant association between personal and systemic factors and women’s choice of delivery location was found, except for a concern about time away from work or children (Table 4). On the other

**Table 4. Significance of personal and systemic factors in decisions on where to give birth**

FACTORS	PVALUE
Expenses	.730
Closeness to home	.694
Easy for partner to be present	.896
Easy for coach to be present	.864
Availability of neonatal intensive care unit	.347
Availability of cesarean sections	.734
Familiarity of health care workers	.451
Time away from work and children	.026
Availability of pediatricians	.237
Availability of obstetricians	.471
Care in a centre with a high number of deliveries	.368
Availability of epidural anesthesia in the city	.129

hand, responses to questions about women’s beliefs indicated that they were significantly associated with the likelihood of choosing to deliver in Marathon (Table 5).

**Table 5. Significance of beliefs in decisions about where to give birth**

BELIEFS	PVALUE
It is safer to deliver in the city than in Marathon	.090
It is more convenient to deliver in Marathon than in the city	.008
Someone with previous complications should deliver in the city	.125
My partner would not prefer that I deliver in the city	.003
My doctor would not prefer that I deliver in the city	.064
Women in their first pregnancies should not deliver in the city	.034
I would be more involved in decisions in Marathon	.569

## DISCUSSION

The key finding of this study is that the most important factors influencing where women choose to deliver are the most nebulous: beliefs. These are more important than personal and systemic factors and are not influenced by how well informed women are about local obstetric services.

The high proportion of women in our study who reported preferring to deliver in Marathon is consistent with results of other work that indicated that women believed it was important and convenient to deliver in their home towns.<sup>17</sup> In line with the finding by Ridley et al,<sup>13</sup> that women’s sense of control influenced their decision making, the women in our study felt strongly that they would be more involved in decision making in Marathon than they would be in the city. This feeling might account for the reported preference for local delivery. Also in line with the finding by Ridley et al that women’s perceived safety influences their decisions, our participants thought that women with complications in previous pregnancies should deliver in the city.

Other studies have shown that several personal and systemic factors influence women’s choices regarding obstetric care.<sup>7-11</sup> Our study corroborates previous findings that being close to home and being where it is easy for partners and coaches to be present are of prime importance in the decision. Interestingly, expenses, which were found to be an important barrier to care in previous studies,<sup>9-11</sup> received one of the lowest scores in our study. This might be explained by the relatively high socioeconomic status of the community and the fact that the other studies were completed in the United States where lower socioeconomic status can limit access to the health care system.

Physicians currently practising in Marathon have tried to educate the community about recent changes in the provision of obstetric care so that women needing this care can make informed decisions.<sup>1</sup> Our study shows that women were moderately well informed about local obstetric services. This indicates that current methods of disseminating information (local newspaper, brochures at the clinic, and information distributed at prenatal visits) are adequate, but that there is certainly room for improvement. Even though women's decisions about where to give birth were not related to how much they knew about local obstetric services, it is important that they be informed in order to access these services appropriately.

Seventy-seven percent of women in our sample reported that they would choose to deliver in Marathon. This strong preference for local delivery could be explained by the recent stability of health care providers and of health care services in Marathon. In a case study that included patients from Marathon, Goldsmith<sup>18</sup> found that patients reported great loyalty toward and faith in physicians with whom they had established positive relationships. The current obstetric care system in Marathon allows patients to get to know the physicians who will be present at their deliveries, and might, therefore, increase the likelihood of positive patient-physician relationships.


The number of women who would choose to deliver in Marathon would be similar to the 50% of women who actually deliver locally if all 25% of high-risk women also chose to deliver in Marathon. This study provides us with information as to why the remaining 25% of women would choose to give birth in a larger centre.

Our study indicates that personal and systemic factors are not the key element for women in Marathon making decisions about delivery. Instead, we have identified the importance of women's beliefs as the next area of research focus. If maternity care providers are better able to understand what informs women's beliefs and how best to positively influence them, they will be more apt to provide interventions to ensure that obstetric services are used appropriately. Ultimately, such understanding might lead to more healthy women and children in our rural community.

## Limitations

As with any study in which participants are self-selected rather than randomly surveyed, selection bias is possible. As well, due to the small sample size, the power of this study might not have been strong enough to find the effects of some of the personal and systemic issues that have been found to be important in other studies. Finally, the health care environment in Marathon is unusual because, unlike many rural communities, it has had a stable physician base for most of the last decade. Therefore, the results of this study might not be transferable to other small, rural communities where there might be more fluctuation in health care providers.

## Conclusion

In Marathon, we found that beliefs were much more important than personal and systemic factors in influencing women's decisions about where to give birth. The women were moderately well informed regarding local obstetric services. Most respondents living in this rural setting would choose to remain here for the duration of a low-risk pregnancy and delivery. 

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## Contributors

**Drs Zelek and Orrantia** were involved in all aspects of the study. **Ms Poole** participated in designing the study, gathering and analyzing the data, and preparing the article for submission. **Ms Strike** participated in designing the study and gathering the data. All the authors reviewed and approved the final version of the manuscript.

## Competing interests

None declared

**Correspondence to: Dr Barbara Zelek, Box 353, Marathon, ON P0T 2E0; telephone 807 229-3243; fax 807 229-2672; e-mail bzelek@mfp.on.ca**

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