Obstetrician, Family Physician, or Midwife: Preferences of the Next Generation of Maternity Care Consumers

Obstétricien, médecin de famille ou sage-femme : Préférences en matière d'accouchement chez la prochaine génération de consommateurs de soins de maternité

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ABSTRACT

Objective: The purpose of this study was to identify the views of a cohort of Canadian university students related to maternity care provider preferences and the reasons for these preferences. Relationships between care provider preferences, childbirth attitudes, and desire for epidural anesthesia and cesarean section (CS) were also examined.

Methods: This was a large cross-sectional survey (N = 3,680) of male and female university students at the University of British Columbia (male, 991; female, 2,676). Students were invited to participate via an electronic letter of invitation containing a link to this online survey.

Results: Approximately half of all participants (51.8% for women and 43.7% for men) selected an obstetrician as one of their preferred care providers; somewhat fewer selected a family physician (40.1% for women and 32.8% for men), and even fewer selected a registered midwife (30.1% for women and 18.0% for men). Among the 11 reasons for these preferences (coded from open-ended responses), the most common were expert/specialist, safety, and quality of relationship with care provider. Attitudes toward vaginal birth as well as mode of delivery and pain management preferences were found to relate to caregiver preferences.

Conclusion: Provider preferences among university students are largely driven by perceived risk, level of confidence in birth, and attitudes toward obstetric interventions. These preferences, in combination with the current shortage of maternity providers in Canada, indicate a need for restructuring maternity care human resources.

KEYWORDS

Birth choice, maternity care providers, attitudes, university students

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RÉSUMÉ

Objectifs : Notre étude avait pour but de cerner les opinions d'une cohorte d'étudiants universitaires canadiens en ce qui a trait à leurs préférences en matière de fournisseurs de soins de maternité et aux raisons motivant ces préférences. Nous avons également examiné les relations entre les préférences quant au fournisseur de soins, les

attitudes envers l'accouchement et le souhait d'obtenir une anesthésie péridurale et de subir une césarienne.
Méthodes : Il s'agit d'une étude transversale de grande envergure (N = 3 680) menée auprès d'étudiantes et d'étudiants universitaires à l'Université de Colombie-Britannique (hommes = 991, femmes = 2 676, « préfèrent ne pas se prononcer » = 8, absents = 5). Les étudiants ont été conviés à participer à l'étude par l'intermédiaire d'une lettre d'invitation (transmise par courriel) qui contenait un lien menant à un questionnaire en ligne.
Résultats : Près de la moitié de tous les participants (51,8 % des femmes et 43,7 % des hommes) ont indiqué que les obstétriciens faisaient partie de leurs fournisseurs de soins privilégiés; un nombre quelque peu moindre de participants ont fait de même en ce qui concerne les médecins de famille (40,1 % des femmes et 32,8 % des hommes) et un nombre encore moins grand d'entre eux l'on fait en ce qui concerne les sages-femmes autorisées (30,1 % des femmes et 18,0 % des hommes). Parmi les 11 raisons motivant ces préférences (codées à partir de réponses à des questions ouvertes), les plus courantes étaient le statut d'expert/spécialiste, la sûreté et la qualité de la relation avec le fournisseur de soins. Nous avons constaté que les attitudes envers l'accouchement vaginal, tout comme les préférences en matière de mode d'accouchement et de gestion de la douleur, étaient en corrélation avec les préférences quant au fournisseur de soins.
Conclusion : Chez les étudiants universitaires, les préférences quant au fournisseur de soins sont largement motivées par le risque perçu, le degré de confiance quant à l'accouchement et les attitudes envers les interventions obstétricales. Ces préférences, conjointement avec la pénurie actuelle de fournisseurs de soins de maternité au Canada, soulignent la nécessité de procéder à une restructuration des ressources humaines dans le domaine des soins de maternité.

MOTS-CLÉS :
Choix quant à l'accouchement, fournisseurs de soins de maternité, attitudes, étudiants universitaires

Cet article a été évalué par des pairs.

BACKGROUND

In Canada, obstetricians attend approximately 80% of all births,[1] whereas only 13% of family physicians in Canada report involvement in intrapartum care.[1–3] Since 1993, when regulation of midwives in Canada began, the number of registered midwives providing care has reached 800, but access to midwifery care is still limited. From 2007 to 2008 in British Columbia (B.C.), where this study took place, 49.9% of women were attended in birth by an obstetrician, 39.9% by a family physician, and 6.3% by a registered midwife.[4] From 2002 to 2007, the proportion of births in B.C. attended by family physicians dropped by 6% and those attended by midwives increased by almost 4%.[4]

Data from B.C. indicate that, among women at low risk for complications at the onset of labour, cesarean section rates are lowest for women attended by midwives (9.0%), followed by those attended by family physicians (10.1%) and those attended by obstetricians (15.6%).[4] Of births in B.C. attended by obstetricians, 24% have been designated as low risk,[4] potentially indicating overuse of the most highly trained physicians.[5] Achieving a good fit between provider competencies and women's maternity care needs is contingent upon both availability of appropriate providers and on childbearing families' perceptions of these providers.

In this study, we assessed reproductive-aged university students' maternity care provider preferences, their reasons for these preferences, and the relationships between care provider preferences, attitudes about childbirth, and desire for epidural anaesthesia and

cesarean delivery.

Care provider preference is largely unstudied in Canada. Results of the only study of Canadian women's birth attendant preferences found that attendant choices were largely determined by participants' philosophical viewpoints about birth.[6] Studies of university students from the United States[7,8] and pregnant women from Australia[9] had similar findings.

The purpose of our study was to identify views related to choice of caregiver in a large cohort of university students. We sought to answer the following questions:

1. Were they to become pregnant, would female university students (and their male partners) choose a family physician, a midwife, or an obstetrician as their primary care provider?
2. What reasons do participants give for their care provider preferences?
3. What is the relationship between care provider preferences and (a) attitudes toward childbirth, (b) mode-of-delivery preferences, and (c) desire for epidural anaesthesia?

METHODS

Design

This was a large cross-sectional survey of men's and women's preferences, attitudes, and beliefs related to pregnancy and childbirth. University of British Columbia (UBC) undergraduate and graduate students who had yet to bear a child, and who indicated a desire to have children, were eligible for participation. Results pertaining to mode of delivery preferences, based on this data, have been published elsewhere.[10]

Procedures

The Office of Enrolment Services at UBC e-mailed a letter describing the study and containing a link to the online survey to all undergraduate and graduate students (N = 42,583). Participants completed the survey, which was available for three weeks on Survey Monkey. Ethical approval for this project was provided by the UBC Behavioural Research Ethics Board.

Survey Instrument

The 70 survey questions pertained to participant demographics, reproductive goals, preferences regarding maternity care providers, birthplace, labour support, methods of pain relief, mode of delivery, and attitudes towards pregnancy, labour, and birth. We assessed the psychometric properties of the 27-item self-report measure of confidence in vaginal birth (the Childbirth Attitudes Scale), which included the labour and birth items of the survey.[10] Items were on a six-point Likert-type scale ranging from "strongly disagree" to "strongly agree"; higher scores on the scale indicate increased confidence in vaginal birth. The scale was reviewed by an expert panel and pilot tested. Factor analytic results indicated a one-factor scale (Cronbach's alpha = 0.88). A full description of the survey, scale development, and psychometric properties is published elsewhere.[10]

Data Analysis

Study data were analyzed using Predictive Analytics Software (PASW) Statistics 18.[11] Descriptive statistics were used to report sample demographics and participants' care provider preferences. Responses to research question 1 were evaluated descriptively, using percentages. Responses to research question 2 were assessed using a semi-qualitative approach. All responses were thematically coded by two independent raters. Kappa calculations for each code were conducted separately for men and women. Responses to research question 3a were analyzed by using independent samples t-tests and analysis of variance with post hoc (Tukey HSD) tests. Responses to research questions 3b and 3c were tested using Chi-square analysis for nonparametric data.

RESULTS

Sample Characteristics:

3680 eligible students responded to the survey. Participants' ages ranged from 17 to 47 years (M = 22, SD = 4.23). Respondents in our sample were slightly younger (22.0 years versus 24.6 years) and more often female (73% versus 56%) than the overall population. Participants most often self-identified as Caucasian/ Canadian (65%), followed by Asian (23%). Thirty-

Table 1. *Prevalence of Care Provider Preferences among University Students*

Care Provider Preference	Full Sample n (%)	Women n (%)	Men n (%)
FP only	450 (12.3)	332 (12.4)	118 (11.9)
MW only	310 (8.5)	255 (9.5)	55 (5.5)
OB only	824 (22.5)	606 (22.6)	218 (22.0)
FP and MW	153 (4.2)	136 (5.1)	17 (1.7)
OB and FP	475 (13.0)	366 (13.7)	109 (11.0)
OB and MW	200 (5.5)	175 (6.5)	25 (2.5)
OB, FP, and MW	321 (8.8)	240 (9.0)	81 (8.2)
DNK, none, or other	518 (14.1)	350 (13.0)	169 (17.0)
Missing response	416 (11.3)	216 (8.1)	199 (20.1)
TOTAL	**3,667 (100.00)**	**2,676 (72.98)**	**991 (27.02)**

DNK = do not know; FP = family practitioner; MW = midwife; OB = obstetrician.

three percent of the respondents had completed a university degree (23% undergraduate, 10% graduate).

Preferences Regarding Primary Care Providers

Participants were able to indicate a preference for up to three care provider types. Among the 2,460 female participants who responded to this question (i.e. 91.9% of women who completed the survey), 1,387 (51.8%) selected obstetrician as one of their preferred care providers, 1,074 (40.1%) selected family physician, and 806 (30.1%) selected registered midwife.

Of the 991 male participants who completed the survey, 792 (79.9%) responded to the question pertaining to care provider preferences; 433 (43.7%) selected obstetrician as one of their preferred care providers, 325 (32.8%) selected general practitioner, and 178 (18.0%) selected midwife.

Reasons Given for Care Provider Preferences

Eleven themes with acceptable Kappas (≥ 0.70)12 emerged from coding the open-ended responses. Kappas were calculated separately for men and women, with a range of 0.74 to 0.91 for women and 0.73 to 0.94 for men. Desires for safe care, care of a specialist or expert in maternity care, and a quality relationship with the care provider were the most common themes for both women and men (Table 1).

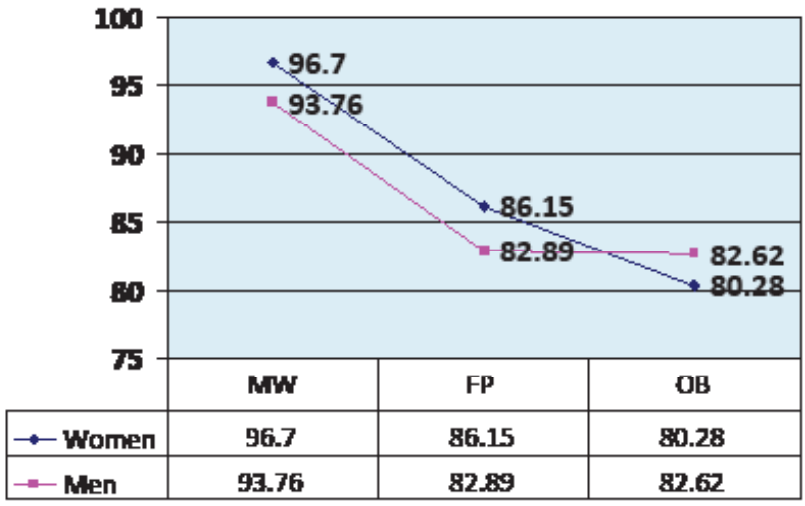
Relationship between Care Provider Preferences and Attitudes to Childbirth (Childbirth Attitudes Scale Scores)

Overall, men and women did not differ with respect to their Childbirth Attitudes Scale (CAS) scores, which were in the "somewhat agree" range for both men (M = 85.61, SD = 12.89) and women (M = 85.43, SD = 14.44).

Analysis of Variance indicated that, for both women and men, CAS scores differed significantly among participants who indicated an exclusive preference for a midwife, a family physician or an obstetrician ($F2, 1022 = 116.80$, $p < 0.001$ and $F2, 242 = 12.32$, $p < 0.001$, for women and men respectively).

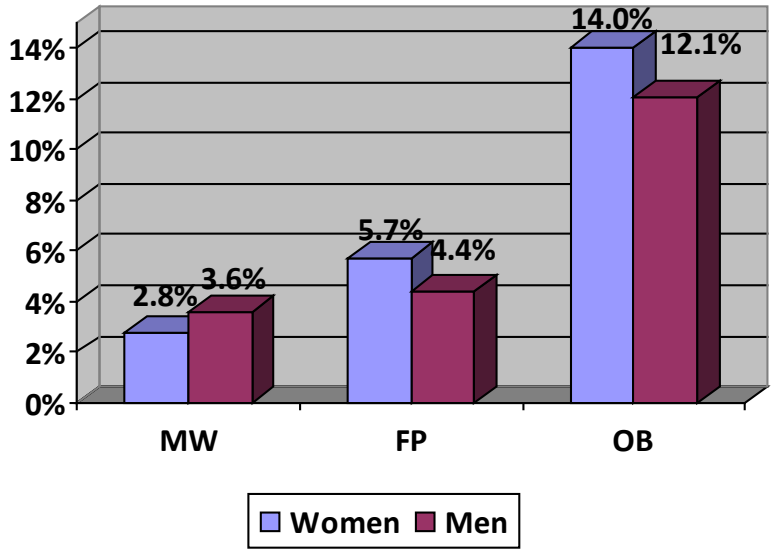
Specifically, CAS scores were significantly higher among female respondents who indicated a preference for a midwife than among females who

Figure 1. *Childbirth Attitudes Scale scores related to care provider preference (n = 1,270).*



(MW = midwife; FP = family practitioner; OB = obstetrician)

Figure 2. *Proportions of men and women preferring a cesarean delivery by care provider preference*
(n = 1,584) (MW = midwife; FP = family practitioner; OB = obstetrician)



(MW = midwife; FP = family practitioner; OB = obstetrician)

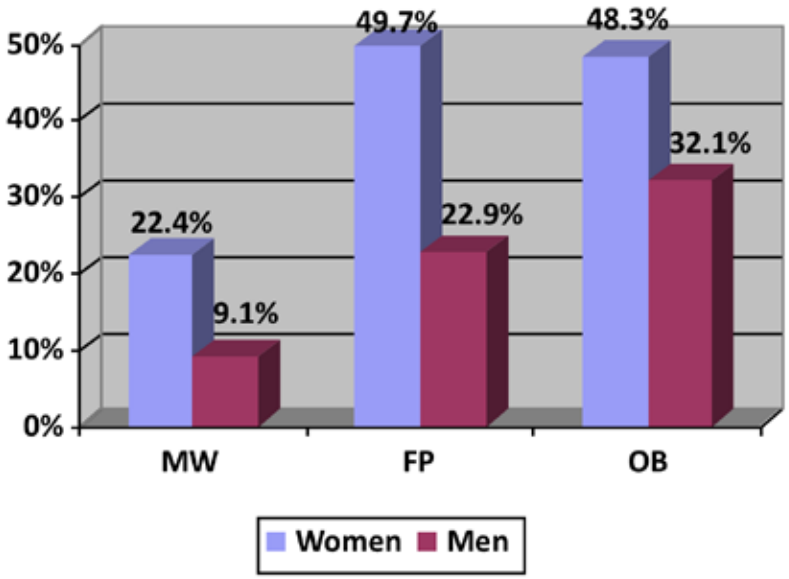
preferred either a family practitioner (mean difference = 10.55, $p < .001$) or an obstetrician (mean difference = 16.41, $p < .001$). Furthermore, CAS scores were significantly higher among women who indicated a preference for a family practitioner than among those who preferred an obstetrician (mean difference = 5.86, $p < .001$) (Figure 1).

Male participants who indicated a preference for a midwife had higher CAS scores than males who preferred either a family practitioner (mean difference = 10.87, $p < .001$) or an obstetrician (mean difference = 11.15, $p < .001$). In contrast with female participants, there were no differences in CAS scores between male participants who indicated a preference for a family practitioner and those who preferred an obstetrician (mean difference = 0.28, $p < .99$) (see Figure 1).

Relationship between Care Provider Preference and Mode-of-Delivery Preference

Over 90% of participants indicated a preference for a vaginal versus cesarean delivery (Figure 2). The percentages of male and female participants who indicated a preference for vaginal delivery did not differ (91.6% and 91.2%, respectively; $\chi 2 = .09$, $p = .764$). Women who indicated an exclusive preference for an obstetrician were more likely to indicate a preference for CS compared to women who indicated an exclusive preference for a family practitioner or a midwife ($\chi 2 = 14.84$ [$p < .001$] and $\chi 2 = 23.64$ [$p < .001$], respectively). Regarding the preferred mode of delivery, women who indicated an exclusive preference for a midwife did not differ significantly from those

Figure 3. *Proportion of men and women indicating a preference for epidural pain management by care provider preference (n = 1,584).*



(MW = midwife; FP = family practitioner; OB = obstetrician)

who indicated an exclusive preference for a family practitioner ($\chi 2$ = 2.99, p = .084).

Men who indicated an exclusive preference for an obstetrician were more likely to express a preference for CS compared to men who indicated an exclusive preference for a family practitioner ($\chi 2$ = 5.13, p = .023). Differences in the proportion of men who indicated an exclusive preference for a midwife, a family practitioner, or an obstetrician were not significant ($\chi 2$ = 0.05 [p = .819] and $\chi 2$ = 3.35 [p = .067], respectively) (see Figure 2).

Relationship between Care Provider Preference and Desire for Epidural Anaesthesia

More than one-third of participants (35.5%) indicated a preference for epidural pain management. Women were twice as likely as men to indicate this preference (41.1% and 20.5%, respectively; $\chi 2$ = 133.82, p < .001).

Women who indicated an exclusive preference for a midwife were less likely to indicate a preference for epidural pain management than were women who indicated a preference for a family practitioner or an obstetrician ($\chi 2$ = 45.86 [p < .001] and $\chi 2$ = 50.28 [p < .001], respectively). With respect to their desire for epidural pain management, women who indicated an exclusive preference for a family practitioner did not differ significantly from participants who indicated a preference for an obstetrician ($\chi 2$ = 0.16, p = .693).

Men who indicated an exclusive preference for a midwife were significantly less likely to indicate a preference for epidural pain management than were men who indicated a preference for a family practitioner or an obstetrician ($\chi 2$ = 4.73 [p = .030] and $\chi 2$ = 11.68 [p = .001], respectively). With respect to their desire for epidural pain management, men who indicated a preference for a family practitioner did not differ significantly from men who preferred an obstetrician ($\chi 2$ = 3.18, p = .075) (See Figure 3).

INTERPRETATION AND LIMITATIONS

In this study of university students' care provider preferences, both women and men most frequently indicated a preference for an obstetrician. The most prevalent reasons for this care provider preference related to a desire for the safest care by a specialist in maternity care. Those who preferred an obstetrician reported the lowest confidence in vaginal birth on the CAS, were more likely to desire epidural anaesthesia for pain relief in labour, and were more likely to want a cesarean birth. Conversely, the most frequently cited reason for care provider preference among female respondents who preferred a midwife was the quality of the relationship with the care provider. These women also reported more positive attitudes towards vaginal birth (i.e., higher CAS scores) and were less likely to indicate a preference for epidural anaesthesia or CS. Trust was the theme noted most often by

the women who indicated a preference for a family physician; the family physician was seen as providing continuity and knowledge of the family.

Our findings support those of Wilson et al., who found that midwifery patients expressed high health self-efficacy, valued natural birth, preferred a less interventionist approach to birth, and favoured an egalitarian relational style with their health care provider.[6] In Klein's study of pregnant Canadian women,[13] those under the care of a midwife had less favourable attitudes towards epidural anaesthesia and cesarean section, than did women who were cared for by physicians. Our study results corroborate these findings and indicate that attitudes towards epidural anaesthesia and cesarean section may be formed long before first contact with a maternity care provider. In other words, women choose care providers whose practices they perceive to be congruent with their basic childbirth philosophy.

The proportion of female participants who indicated a preference for an obstetrician (approximately 50%) mirrors the actual proportion of births attended by obstetricians in British Columbia. The proportion of participants with a preference for a family physician (39.9%) was almost identical to the actual proportion of family physicians attending births in that province (40.1%). However, the percentage of those reporting a preference for a midwife (approximately 30%) is triple the percentage of births currently attended by midwives. Increasing the number of midwives attending births would meet the preferences of the next generation of women while simultaneously addressing the current shortage of maternity providers.

Nearly 9% of respondents preferred to have all three types of caregivers attending their births. This may reflect a lack of clarity about the roles of the various care providers, or an "ideal world" scenario: the obstetrician for safety, the midwife for relationship and support, and the family physician for continuity. The public may not know that both midwives and family physicians consult with obstetricians when the expertise of an obstetrician becomes necessary. Public education about the roles of obstetricians, family physicians and midwives and interprofessional education[14] are small steps required to achieve the goal of supporting optimal birth.[14] As our findings are based on a convenience sample of Canadian university students, caution should be exercised in generalizing the results to the overall Canadian population of reproductive-aged men and women.

This study of care provider preferences among university students provides a window into the attitudes of today's childbearing families. Many perceive birth as risky and, as such, would choose experts and/or specialists, perceived to be obstetricians by most. However, there is an inadequate supply of obstetricians in Canada. Furthermore, obstetricians, because of their skills in high-risk pregnancies, may not wish to be the primary caregivers for women experiencing a low-risk pregnancy. Ultimately, it is about "having the right person, in the right place, at the right time".[15] An interprofessional approach to care, in which the majority of women receive primary care from a midwife or a family physician and in which women experiencing a high-risk pregnancy with complications receive care from an obstetrician, would be cost-effective and would ensure that women receive the care that best meets both their medical and personal needs.

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