

# Gender Preference for a Female Physician Diminishes as Women Have Increased Experience With Intimate Examinations

Jennifer M. Racz, BSc, MD, Amirrtha Srikanthan, MD, Philip M. Hahn, MSc, Robert L. Reid, MD, FRCSC

Division of Reproductive Endocrinology and Infertility, Department of Obstetrics and Gynecology, Queen's University, Kingston ON

## Abstract

**Objectives:** To determine the importance of seven statements encouraging medical student participation in the health care team with respect to the effect they would have on a woman's decision to allow a medical student to participate in an intimate physical examination, and to explore factors associated with gender bias.

**Methods:** Questionnaires were administered to women attending outpatient clinics in obstetrics and gynaecology at Kingston General Hospital and to students at two local secondary schools.

**Results:** Responses from 683 clinic patients and 192 secondary school students were analyzed. The mean age (range) was 42 years (17- 85) and 16 years (15- 22) for the respective samples. More clinic patients rated each of the statements as important or very important than did students ( $P < 0.01$ , Fisher exact tests). The largest differences between the sample groups were seen for the statements pertaining to the potential for enhanced understanding (81.0% vs. 60.2%), quality of health care (87.4% vs. 69.8%), and affording medical students the opportunity to participate (92.7% vs. 77.0%); 72.8% (485/666) of clinic patients reported they would accept an intimate examination by a medical student of either gender, compared with 32.1% (61/190) of secondary school students, and 22.2% (148/666) of clinic patients indicated they would only accept a female student compared with 55.3% (105/190) of secondary school students. The proportion of students preferring female medical students was inversely related to the number of previous breast or pelvic examinations ( $P = 0.031$ , chi-square test for trend).

**Conclusions:** Educational statements designed to encourage women to allow students to participate in their medical care had less effect on the secondary school students than on the women in a clinic setting. Although secondary school students express a preference for female physicians, it appears that with increasing experience with intimate examinations other factors take precedence in determining choice of health care provider.

**Key Words:** Adolescent, gender bias, gynaecology, patient acceptance of health care, physical examination

Competing Interests: None declared.

Received on February 16, 2008

Accepted on April 15, 2008

## Résumé

**Objectifs :** Déterminer l'importance de sept énoncés favorisant la participation de l'étudiant de médecine à l'équipe de soins de santé, en ce qui a trait à l'effet qu'ils exerceraient sur la décision de la patiente de permettre la participation d'un étudiant de médecine à un examen physique intime, et explorer les facteurs associés au sexisme.

**Méthodes :** Des questionnaires ont été remis à des femmes fréquentant des cliniques externes d'obstétrique-gynécologie au *Kingston General Hospital* et à des étudiantes fréquentant deux écoles secondaires locales.

**Résultats :** Les réponses de 683 patientes de clinique et de 192 étudiantes de niveau secondaire ont été analysées. L'âge moyen (plage) était de 42 ans (17-85) et de 16 ans (15-22), respectivement. Plus de patientes de clinique que d'étudiantes ont classé chacun des énoncés comme étant « important » ou « très important » ( $P < 0,01$ , tests exacts de Fisher). Les plus importantes différences entre les groupes sondés ont été constatées en ce qui concerne les énoncés portant sur le potentiel d'améliorer la compréhension (81,0 %, par comparaison avec 60,2 %), la qualité des soins de santé (87,4 %, par comparaison avec 69,8 %), et le fait d'offrir aux étudiants de médecine l'occasion de participer (92,7 %, par comparaison avec 77,0 %); 72,8 % (485/666) des patientes de clinique ont signalé qu'elles accepteraient de subir un examen intime mené par un étudiant de médecine, tous sexes confondus, par comparaison avec 32,1 % (61/190) des étudiantes de niveau secondaire, et 22,2 % (148/666) des patientes de clinique ont indiqué qu'elles n'accepteraient que la participation d'une étudiante de médecine, par comparaison avec 55,3 % (105/190) des étudiantes de niveau secondaire. La proportion d'étudiantes indiquant une préférence envers la participation d'étudiantes de médecine était inversement proportionnelle au nombre d'exams mammaires ou pelviens déjà subis ( $P = 0,031$ , test de chi carré en ce qui concerne la tendance).

**Conclusions :** Les énoncés pédagogiques conçus pour encourager les femmes à permettre la participation d'étudiants de médecine à leurs soins médicaux exerçaient moins d'effet sur les étudiantes de niveau secondaire que sur les femmes en milieu clinique. Bien que les étudiantes de niveau secondaire aient exprimé une préférence pour les femmes médecins, il semble que d'autres facteurs prennent préséance dans le choix d'un fournisseur de soins de santé, au fur et à mesure de l'accumulation d'expérience en matière d'exams intimes.

J Obstet Gynaecol Can 2008;30(10):910-917

## INTRODUCTION

Although there have been significant advances in medical student education with the use of surrogate patients in the clinical setting, there are no adequate substitutes for contact with real patients. Despite recognizing that direct patient contact is essential in medical education, some women are reluctant to allow students, particularly males, to participate in their clinical encounters involving intimate examinations.<sup>1-4</sup> The exclusion of male medical students, in turn, has been shown to have a negative influence on future desire to pursue a career in the field of obstetrics and gynaecology.<sup>5</sup> Male medical students also seem to be discouraged from seeking careers in this specialty by other medical students, particularly their female counterparts, and physicians who believe that women make better obstetrician-gynaecologists than men.<sup>6</sup> Along with reports in several popular women's magazines that continue to portray negative stereotypes of male gynaecologists, this perception of discrimination has contributed to a shift in the gender balance of physicians pursuing training in obstetrics and gynaecology.<sup>7</sup>

As real-life patient encounters are important in medical education, particularly within the scope of obstetrics and gynaecology, the elucidation of potential factors that will improve patient participation in the education of future physicians is crucial. Previously, we found that using educational material to inform women about the role, training, and responsibilities of medical students had a positive influence on the acceptance of students as part of the health care team in gynaecology.<sup>8</sup> The main objectives of this survey were to determine the relative importance of seven statements encouraging medical student participation in the health care team with respect to the effect they would have on a woman's decision to allow a medical student to participate in an intimate physical examination, and to explore factors associated with gender bias. Our study included patients attending outpatient clinics in obstetrics and gynaecology, and a sample of secondary school students to provide a comparison group of young females with minimal experience with physicians and medical students.

## METHODS

Between May 18 and August 31, 2006, patients attending outpatient clinics in obstetrics and gynaecology at the Kingston General Hospital were asked to complete an anonymous questionnaire, and respondents were compensated with a movie ticket. Ethics approval was granted by the Queen's University Research Ethics Board.

In part 1 of the questionnaire, women were asked to rank seven statements on a scale of 1 to 5 according to the impact they would have on their decision to allow a medical student

**Table 1. Characteristics of clinic patients and secondary school student samples**

Characteristic	Clinic patients* N = 683, n (%)	Students† N = 192, n (%)
<b>Age in years</b>		
15 to 19	10 (1.5)	188 (97.9)
20 to 29	165 (24.2)	4 (2.1)
30 to 39	179 (26.2)	
40 to 49	103 (15.1)	
50 to 59	108 (15.8)	
60 to 69	73 (10.7)	
70 to 79	33 (4.8)	
80 to 85	5 (0.7)	
<b>Number of pregnancies</b>		
0	73 (10.9)	166 (90.2)
1	129 (19.2)	14 (7.6)
2	205 (30.6)	1 (0.5)
3 or more	264 (38.7)	3 (1.6)
<b>Number of children</b>		
0	214 (31.3)	181 (94.3)
1	141 (21.1)	10 (5.2)
2	169 (25.3)	1 (0.5)
3 or more	145 (21.2)	
<b>Number of pelvic and/or breast exams in the past</b>		
0	7 (1.0)	111 (61.3)
1	15 (2.4)	27 (14.9)
2 to 5	61 (9.8)	36 (19.9)
> 5	539 (86.7)	7 (3.9)

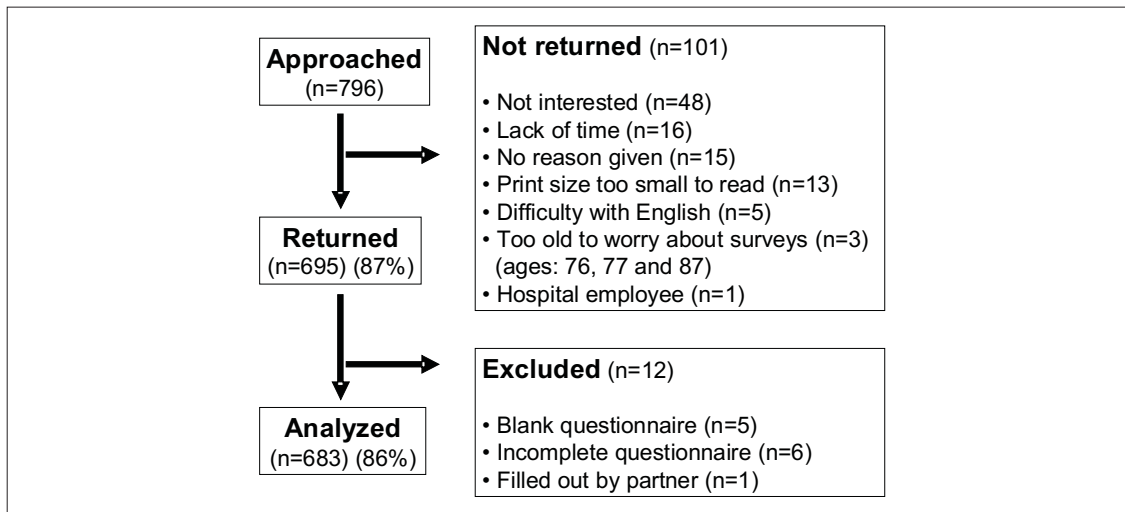
\*Missing data: age (n = 7), number of children (n = 14), number of pregnancies (n = 12), number of pelvic and/or breast examinations in the past (n = 61).

†Missing data: number of pregnancies (n = 8), number of pelvic and/or breast examinations in the past (n = 11).

to participate in an intimate physical examination, such as a pelvic or breast examination, under supervision: 1 = not at all important, 2 = somewhat important, 3 = neutral, 4 = important, and 5 = very important. The statements encouraging medical student participation in the health care team were as follows:

1. Quality of health care is more important than physician gender.
2. Affording medical students the opportunity to participate in your health care is essential in ensuring a continuing supply of well-trained physicians.
3. Students are never left to do critical examinations on their own.

**Figure 1. Flow diagram for patients attending outpatient clinics in obstetrics and gynaecology at Kingston General Hospital**



**Table 2. Impact rating (important or very important) of seven statements on a woman’s decision to allow a medical student to participate in an intimate physical examination**

Statement	Clinic patients N = 683, n (%)	Students N = 192, n (%)	Difference*	P†
1. Quality of health care	595/681 (87.4)	134/192 (69.8)	17.6%	< 0.001
2. Affording opportunity to participate	631/681 (92.7)	147/191 (77.0)	15.7%	< 0.001
3. Supervised critical examinations	642/680 (94.4)	170/192 (88.5)	5.9%	0.009
4. Enhanced understanding	551/680 (81.0)	115/191 (60.2)	20.8%	< 0.001
5. Supply of future physicians	654/682 (95.9)	166/191 (86.9)	9.0%	< 0.001
6. Essential component of health care	611/683 (89.5)	148/190 (77.9)	11.6%	< 0.001
7. Extensive formal training	629/680 (92.5)	163/192 (84.9)	7.6%	0.003

\*Difference = clinic patients minus secondary school students

†Fisher exact test

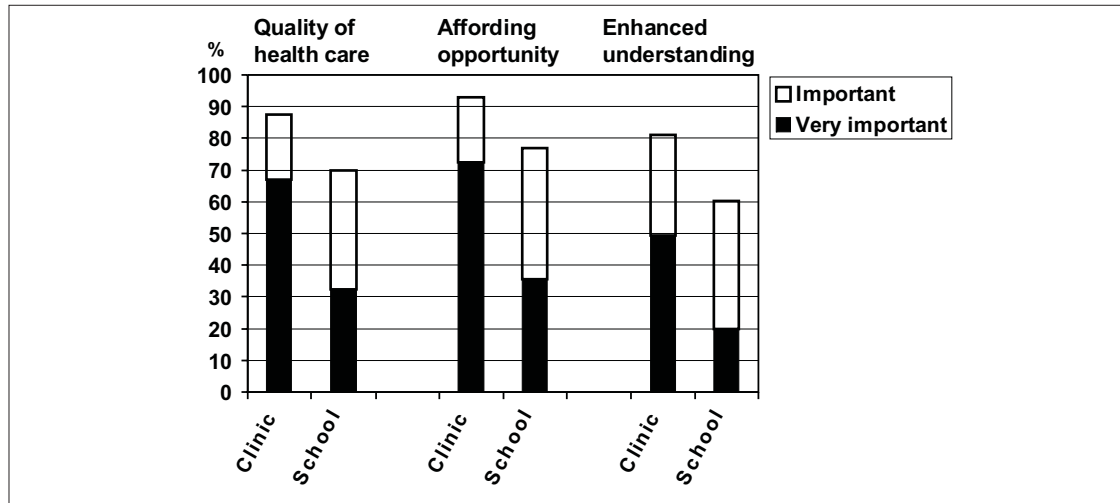
4. Allowing a medical student to participate in your care often provides you with additional information and enhanced understanding of your medical condition.
5. Ensuring that there is an adequate supply of qualified future physicians in our health care system is a top priority.
6. Although it is natural to be somewhat embarrassed and self-conscious during an intimate examination it is an essential component of your overall health care.
7. Medical students who participate as part of your health care team have had extensive post-secondary school education and have received formal training in all aspects of health care.

In part 2 of the questionnaire, women were asked to record their age, number of past pregnancies, number of children, and number of previous breast or pelvic examinations. A

series of questions was asked pertaining to gender preferences for staff physicians and medical students and to any related religious or cultural restrictions. Respondents were asked to indicate on a scale of 1 to 5 the level of embarrassment they had experienced or would likely feel with an internal pelvic examination performed by either male or female staff physicians, or by either male or female medical students. The scale’s categories were: 1 = not at all embarrassed, 2 = somewhat embarrassed, 3 = neutral, 4 = very embarrassed but willing to proceed, and 5 = embarrassed to the point that it would be unbearable to proceed with the examination. Written comments were requested for any past experiences, positive or negative, that may have influenced gender preference for a physician and regarding the participation of a medical student in intimate examinations.

With permission from the Limestone District School Board, the questionnaire was administered to students from

**Figure 2. Impact rating (important or very important) for three statements: clinic patients versus secondary school students**



**Table 3. Choice of having a medical student participate in a breast or pelvic examination under the supervision of a physician**

Choice	Clinic patients* N = 666, n (%)	Students† N = 190, n (%)
Female only	148 (22.2)	105 (55.3)
Male only	1 (0.2)	0 (0.0)
Either gender	485 (72.8)	61 (32.1)
No medical student	32 (4.8)	24 (12.6)

\*Missing data, n = 17  
†Missing data, n = 2

two secondary schools in the Kingston area. This sample provided a comparison group of young females who had minimal experience with physicians and medical students. Questionnaires were distributed during several class sessions during May and June of 2006, depending on scheduling and availability. Respondents received a movie ticket as compensation. This sampling strategy did not permit the calculation of a response rate.

Questionnaire responses were entered into an Excel spreadsheet and then imported into SPSS for Windows (Version 14.0, Chicago IL) to perform descriptive and comparative statistics. All 2 × 2 frequency tables were analyzed using Fisher exact tests. The association between preference for a female medical student and the number of previous breast or pelvic examinations was analyzed using a chi-square test for trend. Non-parametric Mann-Whitney tests were used to compare the level of embarrassment between the hospital and secondary school samples.

Written comments were collated and qualitatively assessed for common themes.

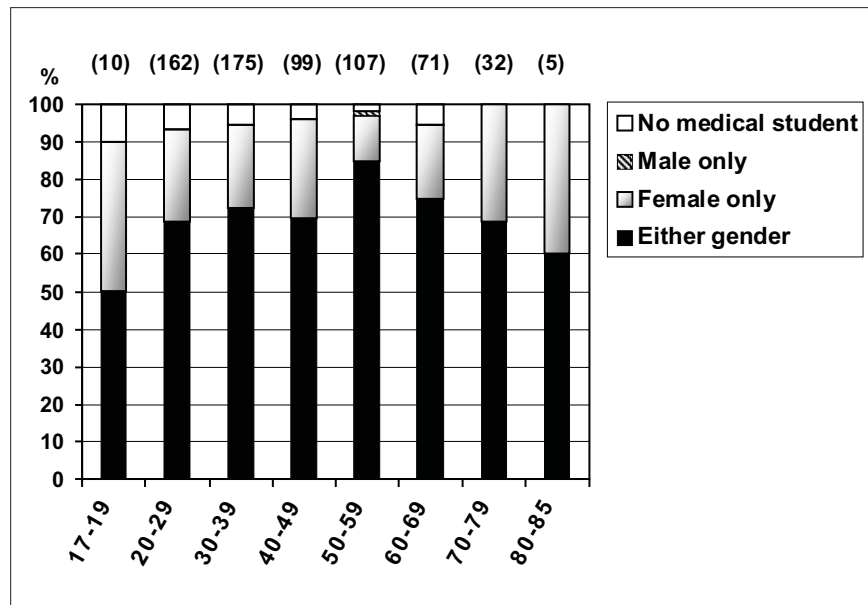
**RESULTS**

Of 796 clinic patients approached in waiting rooms, 695 (87%) returned questionnaires and 683 (86%) were included in the analysis. Reasons for not returning a questionnaire and for excluding subjects from the final analysis are given in Figure 1. All 192 questionnaires returned by students (89 from Bayridge Secondary School and 103 from Queen Elizabeth Collegiate and Vocational Institute) were included in the final analysis.

The mean age (range) of the clinic patients and secondary school students was 42 years (17–85) and 16 years (15–22), respectively. The mean age (range) of clinic patients refusing to fill out a questionnaire was 61 years (22–90). Most students were nulliparous (94.2%) and had not yet had a pelvic or breast examination (61.3%). Frequencies for age and number of past pregnancies, children, and breast or pelvic examinations are presented in Table 1.

All seven statements encouraging medical student participation in the health care team were rated highly by the majority of clinic patients and secondary school students. Significantly more clinic patients than students ranked each of the statements as “important” or “very important,” particularly those emphasizing quality of health care, affording medical students the opportunity to participate, and the potential for enhanced understanding (Table 2, statements 1, 2, and 4). One fifth to one third of the students considered these statements very important compared with one half or more of the clinic patients (Figure 2).

**Figure 3. Choice of having a medical student participate in an intimate examination for clinic patients stratified by age category. Numbers in top brackets denote sample size.**



Note: One 56-year-old patient preferred a male medical student

**Table 4. Association between choosing a female medical student to participate in a breast and/or pelvic examination and previous pregnancy**

Student Choice: Female Only*	Previous pregnancy		P†
	Yes	No	
Clinic patients (n = 656)	129/584 22.1%	18/72 25.0%	0.552
Students (n = 183)	6/18 33.3%	97/165 58.8%	0.047

\*Choices: (male only), (either gender), and (no medical student) were pooled.

†Fisher exact test.

The majority of clinic patients (97.4%, 589/605) and students (96.0%, 119/124) reported being satisfied with their female physician's care. More clinic patients than students reported satisfaction with care from male physicians (93.6%, 574/613 vs. 79.5%, 93/117;  $P < 0.001$ , Fisher exact test). After reading the information about medical students provided in the questionnaire, respondents were asked if they had a gender preference for medical students participating in or observing a breast or pelvic examination under supervision or whether they preferred no involvement by a medical student whatsoever. While the majority of clinic patients (72.8%, 485/666) would accept a medical student of either gender, more than one half of the secondary

school students (55.3%, 105/190) would prefer a female medical student (Table 3).

The choice of having a medical student participate in an intimate examination did not appear to be related to the age of the clinic patients (Figure 3). The majority were accepting of medical students of either gender; however, it should be noted that 40% of the clinic patients aged 17 to 19 (4/10) indicated a preference for a female medical student.

More secondary school students who had never been pregnant preferred a female medical student compared with those who reported a previous pregnancy (Table 4). This association was not observed for clinic patients. The proportion of secondary school students preferring female medical students was inversely related to the number of previous breast or pelvic examinations (Table 5). This inverse relationship was also observed for clinic patients, the majority of whom reported at least one previous intimate examination.

The majority of clinic patients reported having had a medical student participate in or observe one of their intimate clinical examinations: 68.2% (436/639) with female students and 56.2% (337/601) with male students. Most reported that medical students demonstrated an adequate level of sensitivity during these encounters: 97.4% (415/426) for female students and 93.6% (305/326) for male students. A minority of the secondary school students reported any previous experience with medical students: 17.7% (32/181) with female medical students and 10.9%

**Table 5. Association between choosing a female medical student to participate in a breast and/or pelvic examination and the number of previous intimate examinations in the past**

Student choice: Female only*	No. of breast/pelvic examinations in the past				P†
	0	1	2 to 5	> 5	
Clinic patients (n = 608)	2/7 28.6%	5/14 35.7%	21/58 36.2%	109/529 20.6%	0.014
Students (n = 179)	65/110 59.1%	14/27 51.9%	15/35 42.9%	2/7 28.6%	0.031

\*Choices: (male only), (either gender) and (no medical student) were pooled.  
†Chi-square test for trend.

(19/175) with male medical students. As with the clinic patients, most reported that medical students demonstrated an adequate level of sensitivity during these encounters: 84.4% (27/32) for female students and 94.7% (18/19) for male students.

Most clinic patients reported low levels of embarrassment experienced or expected for an internal pelvic examination performed by a physician or medical student of either gender (Table 6). Many secondary school students reported that they would likely feel so embarrassed it would be unbearable to proceed with the examination if it were performed by a male physician or medical student (Table 7). Overall, embarrassment levels (experienced or expected) were significantly higher for students than for clinic patients for internal pelvic examinations performed by a physician or medical student of either gender ( $P < 0.001$ , Mann-Whitney test, Table 8).

One clinic patient and four secondary school students reported that religious or cultural restrictions prevented them from seeing a male physician. A 60-year-old clinic patient indicated her views were influenced by her physical abuse by a man during her adolescence.

When patients were asked to relate any prior experience, either positive or negative, that had influenced their preference for a physician of a particular gender, a number of common themes were revealed:

1. Patients feel that attributes such as availability, competence, sensitivity, and skill are more important than physician gender.
2. Perceived comfort with physicians of either gender stems from a high level of care received in the past.
3. Perceived comfort with male physicians is based upon exposure to male physicians during childhood.
4. Patients who prefer female physicians feel that females are more sensitive to female concerns or have had a negative experience with a male physician in the past

(rough, arrogant, unprofessional behaviour, inappropriate conduct, poor bedside manner, poor understanding of female concerns).

5. Patients who prefer male physicians have had a negative experience with a female physician in the past (passive, rough, abrupt, unsympathetic, judgemental, and dominating).

## DISCUSSION

Part 1 of our study showed that various statements supportive of medical student participation in intimate physical examinations were rated as important or very important by the majority of clinic patients and secondary school students. However, significantly fewer secondary school students than clinic patients felt that statements pertaining to quality of health care, affording medical students the opportunity to participate, and the potential for enhanced understanding were important. The disparity in ranking between clinic patients and secondary school students suggests that differences in priorities exist between these two populations. These differences must be recognized and taken into consideration when developing interventions to persuade unwilling patients to reconsider the involvement of medical students in their care. In keeping with our previous study,<sup>8</sup> we propose that providing patients with educational material highlighting the merits of clinical teaching prior to their clinic appointments may help persuade some unwilling patients to reconsider the involvement of medical students in their care. By supplementing the altruistic motivations expressed by many patients with a clear understanding about the role and training of learners in the clinic, we hope to help women make informed decisions regarding their personal participation in medical education.

Part 2 of our study showed that the majority of clinic patients would accept an intimate examination by a medical student of either gender. This finding supports previous studies that have demonstrated that gender is not of

**Table 6. Level of embarrassment reported by clinic patients for an internal pelvic examination**

Level	Physician		Medical student	
	Female, N = 674, n (%)	Male, N = 655, n (%)	Female, N = 655, n (%)	Male, N = 639, n (%)
1 (not at all)	<b>323 (47.9)</b>	207 (31.6)	<b>261 (40.7)</b>	163 (25.5)
2 (somewhat)	227 (33.7)	<b>212 (32.4)</b>	218 (34.0)	<b>204 (31.9)</b>
3 (neutral)	83 (12.3)	101 (15.4)	93 (14.5)	99 (15.5)
4 (very)	33 (4.9)	109 (16.6)	47 (7.3)	113 (17.7)
5 (unbearable)	8 (1.2)	26 (4.0)	22 (3.4)	60 (9.4)

Category with highest frequency in **bold text**.

**Table 7. Level of embarrassment reported by secondary school students for an internal pelvic examination**

Level	Physician		Medical student	
	Female, N = 192, n (%)	Male, N = 188, n (%)	Female, N = 188, n (%)	Male, N = 185, n (%)
1 (not at all)	35 (18.2)	17 (9.0)	29 (15.3)	14 (7.6)
2 (somewhat)	<b>59 (30.7)</b>	16 (8.5)	49 (25.8)	17 (9.2)
3 (neutral)	41 (21.4)	21 (11.2)	<b>53 (27.9)</b>	22 (11.9)
4 (very)	45 (23.4)	66 (35.1)	42 (22.1)	52 (28.1)
5 (unbearable)	12 (6.3)	<b>68 (36.2)</b>	17 (8.9)	<b>80 (43.2)</b>

Category with highest frequency in **bold text**.

primary importance in the selection of an obstetrician-gynaecologist.<sup>4,9-15</sup> Instead, patients seem more apt to choose a provider on the basis of qualities such as experience, comfort, provider sympathy, knowledge, ability, and bedside manner.<sup>13</sup> Previous studies have shown that patients' prior experiences with medical students have a profound impact on their participation in medical education; patients with prior experience are more receptive to having a medical student present and are less influenced by the gender of the student.<sup>1,4</sup> In addition, it appears that the likelihood of patients agreeing to medical student involvement is greatest when the request is made personally by the physician, thereby underscoring the unique nature of the physician-patient relationship and the trust patients have in their providers.<sup>4</sup>

In contrast to the clinic patients, the majority of secondary school students expressed a preference for a female medical student for examinations of this nature. The gender preference demonstrated by secondary school students was inversely associated with prior pregnancies and experience with breast or pelvic examinations. Our data suggest that increasing experience with intimate examinations, either due to more examinations over time or the increased number of examinations associated with pregnancy, result in

greater comfort with these examinations and a greater willingness to involve students of either gender.

Although Johnson et al.<sup>13</sup> found that age of the patient had no significant effect on the patient's potential gender bias, they found that patient age was significantly associated with a patient's perceived level of comfort during pelvic examinations. More specifically, patients who reported a greater level of comfort during pelvic examinations provided by male obstetrician-gynaecologists were significantly older than patients who reported greater levels of comfort when a female was performing their pelvic examinations.<sup>13</sup> Similarly, our study found that embarrassment levels (experienced or expected) were significantly higher for secondary school students than for clinic patients for internal pelvic examinations performed by physicians and medical students of either gender.

Our study had several limitations. We used convenience samples, which may not provide an accurate representation of the populations of interest. The clinic patients who participated in the survey were younger than those who refused. The extent to which this may have biased the results is unknown. Our ability to evaluate religious and cultural restrictions as they relate to provider gender

**Table 8. Level of embarrassment for an internal pelvic examination (1 = not at all embarrassed, 5 = embarrassed to the point that it would be unbearable to proceed with the examination)**

	Clinic patients			Secondary school students			P*
	N	Median	Range	N	Median	Range	
Female physician	674	2	1 to 5	192	3	1 to 5	< 0.001
Male physician	655	2	1 to 5	188	4	1 to 5	< 0.001
Female medical student	641	2	1 to 5	190	3	1 to 5	< 0.001
Male medical student	639	2	1 to 5	185	4	1 to 5	< 0.001

\*Mann-Whitney test (non-parametric test for ordinal data).

preferences in the field of obstetrics and gynaecology was limited by the fairly homogeneous nature of the population of Kingston, Ontario. Lastly, as with our previous study,<sup>8</sup> this survey gauged only willingness to accept medical students of either gender, and this may not translate into actual behavioural choices at a real clinic visit involving an intimate examination.

One factor prompting the shift towards increasing numbers of female physicians in the practice of obstetrics and gynaecology may be a misperception among health care providers, including family physicians, gynaecologists, nurses, and medical students, that female patients prefer female obstetricians and gynaecologists. Unfortunately, this misperception has been reinforced by anti-male obstetrician-gynaecologist biases in articles and advertisements published in popular women's magazines.<sup>7</sup> Although secondary school students initially appear to have a preference for a female physician, most women demonstrate no preference and are more likely to indicate a preference for a physician with whom they feel comfortable. These findings are extremely important for men in medical school who might otherwise be discouraged from entering obstetrics and gynaecology, because men in particular appear to be influenced by what they perceive as patient desire and the trends of the profession.<sup>6</sup> It is important for these men to realize that there will always be some women with a distinct gender bias, although according to most studies, these women are in the minority.<sup>11</sup> Medical schools must therefore encourage men to pursue their interests in obstetrics and gynaecology and not be discouraged by the choices of younger females, as, in most cases, physician gender plays a relatively minor role in ultimate physician selection and patient satisfaction.

## REFERENCES

- Hartz M, Beal J. Patients attitudes and comfort levels regarding medical students' involvement in obstetrics-gynecology outpatient clinics. *Acad Med* 2000;75:1010-4.
- O'Flynn N, Rymer J. Women's attitudes to the sex of medical students in a gynaecology clinic: cross sectional survey. *BMJ* 2002;325:683-4.
- Rizk DE, Al-Shebah A, El-Zubeir MA, Thoma LB, Hassan MY, Ezimokhai M. Women's perceptions of and experiences with medical student involvement in outpatient obstetric and gynaecology care in the United Arab Emirates. *Am J Obstet Gynecol* 2002;187:1091-100.
- Mavis B, Vasilenko P, Schnuth R, Marshall J, Jeffs MC. Medical students' involvement in outpatient clinical encounters: a survey of patients and their obstetricians-gynecologists. *Acad Med* 2006;81(3):290-6.
- Emmons SL, Adams KE, Nichols M, Cain J. The impact of perceived gender bias on obstetrics and gynecology skills acquisition by third-year medical students. *Acad Med* 2004;79(4):326-32.
- Schnuth RL, Vasilenko P, Mavis B, Marshall J. What influences medical students to pursue careers in obstetrics and gynecology? *Am J Obstet Gynecol* 2003;189(3):639-43.
- Kincheloe LR. Gender bias against male obstetrician-gynecologists in women's magazines. *Obstet Gynecol* 2004;104(5):1089-93.
- Fortier AM, Hahn PM, Trueman J, Reid RL. The acceptance of medical students by women with gynaecology appointments. *J Obstet Gynaecol Can* 2006;28(6):526-30.
- Ching SL, Gates EA, Robertson PA. Factors influencing obstetric and gynecologic patients' decisions toward medical student involvement in the outpatient setting. *Am J Obstet Gynecol* 2000;182:1429-32.
- Plunkett BA, Kohi P, Milad MP. The importance of physician gender in the selection of an obstetrician or a gynecologist. *Am J Obstet Gynecol* 2002;186(5):926-8.
- Fisher WA, Bryan A, Dervaitis KL, Silcox J, Kohn H. It ain't necessarily so: most women do not strongly prefer female obstetrician-gynaecologists. *J Obstet Gynaecol Can* 2002;24:885-8.
- Howell EA, Gardiner B, Concato J. Do women prefer female obstetricians? *Obstet Gynecol* 2002;99:1031-5.
- Johnson AM, Schnatz PF, Kelsey AM, Ohannessian CM. Do women prefer care from female or male obstetrician-gynecologists? A study of patient gender preference. *J Am Osteopath Assoc* 2005;105(8):369-79.
- Lund JD, Rohrer JE, Goldfarb S. Patient gender preferences in a large military teaching hospital. *Obstet Gynecol* 2005;105:747-50.
- Thurman AR, Litts PL, O'Rourke K, Swift S. Patient acceptance of medical student participation in an outpatient obstetric/gynecologic clinic. *J Reprod Med* 2006;51(2):109-14.