Gender differences in women’s health and maternity care training: A scoping review

Sanja Kostov[2], Sudha Koppula[2], Oksana Babenko[2]

Corresponding author: Dr Sanja Kostov sanja.kostov@ualberta.ca
Institution: 2. University of Alberta
Categories: Educational Strategies, Students/Trainees, Teaching and Learning

Received: 01/03/2018
Published: 05/03/2018

Abstract

Women’s health and maternity care is a core component of the practice of comprehensive family medicine in Canada. The College of Family Physicians of Canada (CFPC) requires that all learners achieve clinical competencies in these skills prior to starting independent practice. Through our integrated women’s health program at the University of Alberta, Canada, we aim to train all learners in these required skills. However, despite our intentions, general program evaluation reveals differences in clinical experiences based on a learner’s gender. The objective of the present scoping review of published literature was to examine the prevalence of gender differences in women’s health and maternity care training, and to identify educational opportunities to ensure that the clinical curriculum provides equitable exposures to learners of all genders. Several publications in our review revealed that male learners had fewer clinical encounters than female learners, while others demonstrated that male learners felt a bias against them during their women’s health and maternity care rotations. It was suggested that these differences may result from patient refusal or discrimination against the learner by training staff, and may lead the learner to perform less well on clinical assessments and have decreased comfort and interest in this area of practice. Suggested approaches to minimize these differences included encouraging patients to consent to care by a learner, supporting learners while on these clinical experiences, and providing faculty development to clinical educators. Further research into strategies to narrow the gap in gender differences in clinical experience in women’s health and maternity care is warranted.

Keywords: gender differences; medical trainees; family medicine; women's health; maternity care

Introduction

According to the College of Family Physicians of Canada (CFPC), the goal of the family medicine training program is to develop family physicians who are competent to independently practice comprehensive family medicine anywhere in Canada (CFPC, 2016). This includes a curriculum in which family medicine learners gain exposures to
educational experiences targeted at achieving core competencies in seven essential skill dimensions (family medicine expert, communicator, collaborator, leader, health advocate, scholar, and professional) as outlined by CanMEDS framework (Shaw et al., 2017). It is also required that all family medicine learners have equal opportunity to gain exposure to all educational experiences to meet their needs and objectives (CFPC, 2016). This includes the clinical area of women’s health and maternity care. At the University of Alberta, Department of Family Medicine, we have created and implemented an integrated women’s health program during the first year of postgraduate (i.e., residency) family medicine training to provide women’s health and maternity care core clinical experiences in line with the CFPC guidelines (see Koppula, 2014 for program description). However, program evaluation has revealed differences, and in particular as they relate to learner gender, in clinical experiences in women’s health and maternity care. As the first step in addressing the identified differences, we performed a scoping review of published literature.

The objective of this scoping review was to determine the prevalence of gender differences in clinical skills experiences in women’s health and maternity care training as documented in the published literature, and to identify potential opportunities that have been suggested for improvement. First, we explored gender differences in the number of clinical encounters experienced by learners based on their gender and the perceived biases felt by learners while on rotations involving women’s health and maternity care. Second, we reviewed patient experiences and how the learner’s gender might influence a patient's decision to accept or refuse being cared for by the learner. Third, we examined potential reasons for these reported gender differences and the potential long term impact to learners. Finally, we summarized suggested strategies to help narrow the gap in gender differences and identify areas requiring further research efforts.

Method

With assistance of librarians at the CFPC and the University of Alberta John W. Scott Health Sciences libraries, a search of current literature (1990-2018) was done through the PubMed database to identify publications using the following keywords: gender differences, gender bias, women's health, maternity care, obstetrics and gynecology, trainees, medical students, and residents. All retrieved publications were reviewed and included in the review if they reported on the variable of learner gender on rotations in women’s health and maternity care. Fourteen published studies were examined in this review.

Gender differences in clinical exposures

Several studies have shown that male undergraduate learners have significantly fewer clinical experiences in women’s health and maternity care while on their core obstetrics and gynecology rotations (Abdulghani et al., 2016; Higham & Steer, 2004; Powell et al., 2004; Zahid et al., 2015). Higham and Steer (2004) demonstrated this using medical students’ detailed log of experiences; male students performed significantly fewer clinical examinations including: deliveries seen and performed, bimanual pelvic exams, speculum use, and cervical smears. Anecdotally, male students in that study reported that female patients declined learner involvement in their care (Higham & Steer, 2004). Other undergraduate medical programs also surveyed their students using self-reported questionnaires with additional qualitative format to elicit experiences. In a study analysing students’ experiences performing genital examinations, student gender negatively influenced number of exposures to opposite-sex gender-specific examinations (Powell et al., 2004). In a recent cross-sectional study in Malaysia, male students had observed significantly fewer vaginal and speculum examinations (Zahid et al., 2015). In that study, male students were refused by patients at higher rates: 87% during medical consultation compared to only 32% of female students; 93.3% of
male students reported that patients were less likely to provide consent to the student performing an internal
examination compared to 67.7% of female students (Zahid et al., 2015). Similarly, Abdulghani and colleagues
(2016) performed a cross-sectional study administering questionnaires to medical students in their final year at two
medical colleges in Saudi Arabia. The results showed that fewer male students had opportunities to practise sexual
history taking with female patients and to perform sensitive physical examinations, including examining the female
breast, pelvis and genitals (Abdulghani et al., 2016).

Learner perceptions of gender differences

Several studies have found that although students had equal numbers of clinical encounters, male learners perceived
a gender bias against them in women's health training; they felt that they were refused more often by female patients,
less supported by teaching staff in an obstetrics and gynecology environment, and experienced more discomfort
in obtaining consent from patients. After analysing questionnaires provided to final year medical students in the
United Kingdom (UK), Akkad and colleagues (2008) reported that male students felt that they were refused more
frequently than female students by patients. However, the authors speculated that due to minimum clinical quotas
required to pass the rotation, male learners still had to seek other opportunities to obtain these experiences, even
with higher refusal rates by patients. Similarly, Chang and colleagues (2010) provided surveys to students rotating
through their obstetrics and gynecology rotation at the University of Pittsburgh, United States (US): 61% of male
students (versus 17% of female students) experienced patients refusing to be interviewed; 82% of male students
(versus 37% of female students) were not given consent by a female patient to perform the examination. Students
reported that patients' refusal was a major barrier in gaining experience in sensitive physical examination
(Abdulghani et al., 2016).

Further, male students reported teachers introducing them to patients at a rate of only 52% versus a reported rate of
76% by female students; male students also reported that teachers obtained patient consent on their behalf at a rate
of 53% versus a reported rate of 75% by female students (Akkad et al., 2008). Male students felt that one of the
most difficult aspects of their training was to approach a patient and obtain consent to do a sensitive examination.
The authors stated that their findings raised concern regarding the amount of support male students received from
teaching staff regarding supervision of sensitive examinations (Akkad et al., 2008). To follow up on this, Dabson and
colleagues (2014) conducted semi-structured interviews at a medical school in the UK to determine students' clinical
eriences in learning sensitive physical examination in undergraduate years 1-5. They found that students felt that
teaching of sensitive physical examination was sporadic and opportunistic and that they only felt comfortable relying
on supervisors to approach the patient for consent for the examination. In the same study, the greatest reported
distress in learning sensitive examinations was for male students learning to perform pelvic examinations (Dabson et
al., 2014). Akkad and colleagues (2008) also found male students reported higher mean scores of 'embarrassment'
while performing female sensitive examination, and that these feelings improved with increased experience and
exposure.

In general, all students believed that sensitive physical examinations were easier for female students (Dabson et al.,
2014). Similarly, four studies reported that male students felt that their gender adversely affected their learning
experience at rates of 64-92% (Alam et al., 2014; Chang et al., 2010; Emmons et al., 2004; Zahid et al., 2015). Male
students provided specific examples describing patients’ refusal to allow their involvement, and feeling left out by
their teaching staff (Chang, 2010).
Patient factors

Although it is important to explore the perceptions of learners, as the focus of this review relates to medical education, understanding the factors influencing female patients’ choices in allowing a learner to be involved in their care is also necessary to understand their hesitation and preferences. O’Flynn and Rymer (2002) surveyed women following a gynecology clinic appointment regarding whether they had consented to a learner being involved. They found that 13% of male students compared to 19% of female students were given consent to do a general examination of the patient, and 15% of male students compared to 22% of female students were given consent to do a sensitive examination. More patients also said that they would allow a female student over a male student to observe their genital area and to do a sensitive examination. Older women and parous women were more likely to agree to a sensitive examination with either gender although the difference in gender preference was maintained (O’Flynn & Rymer, 2002).

To further evaluate patient perceptions of learner involvement, Carmody and colleagues (2011) also provided questionnaires to inpatients and outpatients who had been in contact with medical students on the obstetrics and gynecology service. More female patients were comfortable being seen by a female student (86%) than a male student (74%). However, this was found to be a minor factor in patients’ decision making. In contrast to the findings of O’Flynn and Rymer (2002), overall satisfaction with student interaction was higher for patients below the age of 40 (perhaps suggesting a generational change), who spoke English as a first language, and who had previous experience being cared for by students (Carmody et al., 2011). Following this, Yang and Black (2014) performed the first Australian study to identify factors influencing patient acceptance of medical student involvement in gynecology clinics. Using outpatient questionnaires they reported that out of all patients who consented to care by a student, 40.3% of patients only allowed female students to be present for the physical examination (59.7% allowed both genders) and 49.5% only allowed female students to perform the examination (50.5% allowed both genders). Reasons to refuse student involvement most commonly included embarrassment and issues with privacy. Being aware that a student may be involved in their care and being married or in a committed relationship increased acceptance of student participation (Yang & Black, 2011). Finally, a large systematic review examining patients’ attitudes toward medical student participation also reported that found that male gender of the student increased patient’s refusal of their care (Vaughn et al., 2015).

Potential reasons for gender differences in clinical experiences

By examining both learner and patient perspectives, several key themes arise as possible reasons for gender differences in clinical experiences in women’s health training. Firstly, there are conflicting data on whether male learners indeed experience fewer clinical encounters than female students by the end of their rotation. One study suggests that because some programs require a minimum number of clinical skills performed to pass the rotation, male learners must pursue other learning opportunities when they are not included in patient care, and this may only illustrate the extra challenge that male learners face in obtaining such baseline skills (Akkad et al., 2008). However, what seems more certain is the higher frequency at which male students report being refused in caring for female patients. This is also supported by studies showing that patients also claim to decline care from a male learner more frequently than from a female learner.

Most studies reviewing student’s perception of gender differences reported that male students felt disadvantaged in learning clinical skills on their obstetrics and gynecology rotations. While one study (Abdulghani et al., 2016) found no impact from teaching staff (including nurses and doctors) on this perception, other studies reported that teachers
had a significant impact on male students' feelings of discrimination (Akkad et al., 2008; Alam et al., 2015; Chang et al., 2010; Zahid et al., 2014). Students reported feeling that their clinical educators immediately assumed they were not interested in this field because of their gender (Chang et al., 2010). Two studies also reported that they felt most discriminated against by their immediate preceptors and other physicians such as specialists/consultants, but not by midwives or nurses (Akkad et al., 2008; Zahid et al., 2015). Male students felt that their tutors were less likely to introduce them to patients and less likely to obtain consent on their behalf (Akkad et al., 2008). With these negative perceptions, an increased level of embarrassment and anxiety around providing care to female patients can be expected. The authors state that the reasons for male students being left to ‘fend for themselves’ is unclear, but that there is no evidence to assume that this bias is intentional. Several explanations they offer include the possibility that male students are perceived as less in need of support and that female students may be more willing to ask for help. Another may be that the educator may want to help their learner avoid what they may perceive as an embarrassing situation to avoid demotivating the learner. Interestingly, once introductions were made and consent obtained, the male learners felt no further perceived bias (Akkad et al., 2008).

**Potential long term impact on learners**

Providing equal opportunities to all learners is of primary concern not only as mandated by our accreditation standards, but also because experiential differences potentially influence a learner's performance on clinical rotations and formative assessments, and may even deter them from including women's health and maternity care as part of their comprehensive family practice. Along with fewer clinical experiences in their obstetrics and gynecology block, male students also performed less well on their examination results and, most significantly, were awarded fewer high achievement distinctions (Higham & Steer, 2004). Through a large 10 year retrospective cohort study at the Medical College of Wisconsin, US, Jacques and colleagues (2016) reported that male students scored significantly lower than female students on clinical evaluations during their obstetrics and gynecology rotation and on their OB/GYN National Board of Medical Examiners (NBME) written examination (Jacques et al., 2016). These authors also questioned if women have an inherent advantage because of exposure to a menstrual cycle and reproduction through life experience or if there are other factors involved including gender differences in their clinical experiences.

**Strategies for improvement**

While many studies identify gender differences in women's health and maternity care clinical training and provide some suggestions for how to prevent and address this issue, there is limited research in this area. Most studies encourage clinical teachers to be equally inclusive and supportive of learners of all genders by making all learners feel welcome and 'wanted' (Chang et al., 2010; Higham & Steer, 2004). More specifically, clinical educators should recognize the inherent difficulties in women's health clinical encounters, especially those involving sensitive female examination, and the teaching department should explicitly acknowledge the importance of role-modelling in acquiring these skills. This may include providing faculty development to clinical educators in role-modelling skills and bedside teaching (Akkad et al., 2008; Dabson et al., 2014). Authors also encouraged educators to take initiative in obtaining consent from patients to allow learners to be involved in their care, especially for sensitive physical examination (Dabson et al., 2014; Zahid et al., 2015). This is also outlined in Canadian clinical practice guidelines (Liu et al., 2010). Likewise, women's health clinical teaching sites should consider methods of encouraging patients to accept learner participation regardless of the learner's gender while being aware that patient-specific factors may sometimes play a role in their decision-making (Chang et al., 2010; Yang & Black, 2014).
In order to compensate for potential lack of clinical exposures for male learners, several authors advise using simulation such as videos and mannequins in women’s health clinical skills training and, potentially even for formative assessment. However, they also identify that clinical encounters with real patients are the most effective teaching methods (Abdulgani et al., 2016; Dabson et al., 2014; Higham & Steer, 2004). Using volunteer standardized patients in women’s health clinical skills training would also be appropriate (Dabson et al., 2014).

**Limitations**

Most publications included in the review used retrospective analysis of learner or patient perception of experiences and may be prone to inherent reporting bias. Many of the training programs used in these published studies may have different social and cultural influences based on their location and their findings may not be generalizable to our training program in Canada. All reviewed studies considered only undergraduate medical trainees, usually regarding their experience on obstetrics and gynecology rotations. No published data were found on experiences of undergraduate students specifically on their family medicine rotation or postgraduate residents in family medicine training in women’s health and maternity care. Nevertheless, learner and patient experiences in the settings of women’s health and/or sensitive physical examination were explored in the reviewed studies. These experiences are parallel to clinical encounters occurring in family medicine residency training and, as such, are generalizable to our learner population (i.e., residents/postgraduate trainees). However, given that there are limited studies investigating gender differences in family medicine learners’ experiences in women’s health and maternity care clinical skills training, there is a notable gap in knowledge that requires further research efforts. Implementation and evaluation of suggested strategies would help further determine the best approach to narrowing the gap of gender differences experienced by learners in women’s health and maternity care training.

**Conclusion**

This review has identified that gender differences in women’s health and maternity care clinical training continue to exist. Several strategies have been suggested that may achieve greater equality in clinical exposures for learners of all genders, including: encouraging patients to accept the care provided by learners, supporting learners in these clinical experiences, and providing faculty development to guide clinical teachers; but more are required. We must always respect patient choice while also ensuring that our learners have a fair and equitable clinical experience in order to develop required competencies in family medicine.

**Take Home Messages**

**Notes On Contributors**

Sanja Kostov, MD, CCFP, is an assistant professor and the women’s health curriculum coordinator at the Department of Family Medicine, University of Alberta, Edmonton, Canada.

Sudha Koppula, MD, MCIsC, CCFP, FCFP, is an associate professor and director of faculty development at the Department of Family Medicine, University of Alberta, Edmonton, Canada.
Oksana Babenko, PhD, is an assistant professor and medical education researcher at the Department of Family Medicine, University of Alberta, Edmonton, Canada.

Acknowledgements

The authors thank librarians at the University of Alberta John W. Scott Health Sciences Library and the College of Family Physicians of Canada for their help in locating published studies included in the review.

Bibliography/References

Abdulghani, H. M., Haque, S., Irshad, M., Al-Zahrani, N., Al-Bedaie, E., Al-Fahad, L., & Al Mohaimeed, A. (2016). Students' perception and experience of intimate area examination and sexual history taking during undergraduate clinical skills training: A study from two Saudi medical colleges. Medicine, 95(30), e4400. https://doi.org/10.1097/MD.0000000000004400

Akkad, A., Bonas, S., & Stark, P. (2008). Gender differences in final year medical students' experience of teaching of intimate examinations: A questionnaire study. BJOG: An International Journal of Obstetrics and Gynaecology, 115(5), 625-632. https://doi.org/10.1111/j.1471-0528.2008.01671.x

Alam, K., Safdar, C. A., Munir, T. A., & Ghani, Z. (2014). Teaching obstetrics and gynaecology to male undergraduate medical students: Student's perception. Journal of Ayub Medical College, Abbottabad: JAMC, 26(4), 539-542.

Carmody, D., Tregonning, A., Nathan, E., & Newnham, J. P. (2011). Patient perceptions of medical students' involvement in their obstetrics and gynaecology health care. The Australian & New Zealand Journal of Obstetrics & Gynaecology, 51(6), 553-558. https://doi.org/10.1111/j.1479-828X.2011.01362.x

Chang, J. C., Odrobina, M. R., & McIntyre-Seltman, K. (2010). The effect of student gender on the obstetrics and gynecology clerkship experience. Journal of Women's Health, 19(1), 87-92. doi:10.1089/jwh.2009.1357 https://doi.org/10.1089/jwh.2009.1357

College of Family Physicians of Canada. (2016). Specific standards for family medicine residency programs accredited by the College of Family Physicians of Canada. The red book. Mississauga, ON: College of family physicians of Canada. Retrieved from: http://www.cfpc.ca/uploadedFiles/Red%20Book%20English.pdf

Dabson, A. M., Magin, P. J., Heading, G., & Pond, D. (2014). Medical students' experiences learning intimate physical examination skills: A qualitative study. BMC Medical Education, 14, 39. https://doi.org/10.1186/1472-6920-14-39
Emmons, S. L., Adams, K. E., Nichols, M., & Cain, J. (2004). The impact of perceived gender bias on obstetrics and gynecology skills acquisition by third-year medical students. Academic Medicine: Journal of the Association of American Medical Colleges, 79(4), 326-332.

https://doi.org/10.1097/00001888-200404000-00008

Higham, J., & Steer, P. J. (2004). Gender gap in undergraduate experience and performance in obstetrics and gynaecology: Analysis of clinical experience logs. BMJ (Clinical Research Ed.), 328(7432), 142-143.

https://doi.org/10.1136/bmj.328.7432.142

Jacques, L., Kaljo, K., Treat, R., Davis, J., Farez, R., & Lund, M. (2016). Intersecting gender, evaluations, and examinations: Averting gender bias in an obstetrics and gynecology clerkship in the United States. Education for Health, 29(1), 25-29.

https://doi.org/10.4103/1357-6283.178926

Koppula, S. (2014). Integrated women's health program. Canadian Family Physician, 60(12), e593-e600.

Liu, K. E., Dunn, J. S., Robertson, D., Chamberlain, S., Shapiro, J., Akhtar, S., … Simmonds, A. (2010). Pelvic examinations by medical students. Journal of Obstetrics and Gynaecology Canada, 32(9), 872-874.

https://doi.org/10.1016/S1701-2163(16)34660-6

O'Flynn, N., & Rymer, J. (2002). Women's attitudes to the sex of medical students in a gynaecology clinic: Cross sectional survey. British Medical Journal, 325(7366), 683-684.

https://doi.org/10.1136/bmj.325.7366.683

Powell, H. S., Bridge, J., Eskesen, S., Estrada, F., & Laya, M. (2006). Medical students' self-reported experiences performing pelvic, breast, and male genital examinations and the influence of student gender and physician supervision. Academic Medicine: Journal of the Association of American Medical Colleges, 81(3), 286-289.

Shaw, E., Oandasan, I., & Fowler, N., (Eds.). (2017). CanMEDS-FM 2017: A competency framework for family physicians across the continuum. Mississauga, ON: The College of Family Physicians of Canada. Retrieved from http://www.cfpc.ca/canmedsfm/

Vaughn, J. L., Rickborn, L. R., & Davis, J. A. (2015). Patients' attitudes toward medical student participation across specialties: A systematic review. Teaching and Learning in Medicine, 27(3), 245-253.

https://doi.org/10.1080/10401334.2015.1044750

Yang, J., & Black, K. (2014). Medical students in gynaecology clinics. The Clinical Teacher, 11(4), 254-258.

https://doi.org/10.1111/tct.12122

Zahid, A. Z. M., Ismail, Z., Abdullah, B., & Daud, S. (2015). Gender bias in training of medical students in obstetrics and gynaecology: A myth or reality? European Journal of Obstetrics, Gynecology, and Reproductive Biology, 186, 17-21.
Appendices

Declarations

The author has declared that there are no conflicts of interest.

This has been published under Creative Commons "CC BY 4.0" (https://creativecommons.org/licenses/by-sa/4.0/)

AMEE MedEdPublish: rapid, post-publication, peer-reviewed papers on healthcare professions’ education. For more information please visit www.mededpublish.org or contact mededpublish@dundee.ac.uk.