

Women's perception and attitude to medical students' participation in obstetrics and gynecology care

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ABSTRACT

الأهداف: أجريت هذه الدراسة مستعرضة لتحديد التصورات والمواقف من المرأة فيما يتعلق بمشاركة طلاب الطب خلال الرعاية التوليدية وأمراض النساء.

الطريقة: استخدمنا استبياناً ذاتياً منظماً على الإنترنت، والذي قيم المتغيرات السكانية والإيجابية وأسلوب الحياة. سُئلت النساء عن مواقفهن وقبولهن وإدراكهن تجاه مشاركة طلاب الطب في الرعاية السريرية للمرضى الخارجيين.

النتائج: شملت هذه الدراسة 595 امرأة، منهن حوالي الثلثين (64.7%) زارن العيادة للرعاية في الفترة المحيطة بالولادة، في حين أن الباقي (35.3%) زار لعلاج أمراض النساء. كشفت الدراسة المواقف الإيجابية للمرأة نحو مشاركة الطلاب الطبية أعربت النساء عن مزيد من الارتياح لمشاركة الطلاب الطبيين في أدوار الرعاية السريرية المحدودة مثل الحصول على تاريخ المريض والفحوصات الجسدية دون فحص الحوض. أبلغت النساء عن مستويات أعلى من الراحة فيما يتعلق بالمشاورات النسائية في حضور طالبات الطب، خاصة أثناء فحوص الحوض. تسبب وجود طلاب الطب الذكور في انخفاض كبير في راحة المريض.

الخاتمة: تشير نتائجنا إلى أن النساء اللواتي يطلبن الخدمات الطبية التوليدية / النسائية في المستشفيات التعليمية يحصلن على درجة من القبول تجاه مشاركة الطلاب خلال لقاء الرعاية الصحية. علاوة على ذلك، فإن معظم النساء يشعرن بارتياح أكبر إذا تم الحفاظ على الاتصال المباشر مع الطلاب ومشاركة الطلاب في الرعاية الطبية إلى الحد الأدنى. بالإضافة إلى ذلك، فإن جنس الطالب يلعب دوراً أساسياً في قبول المريض وراحته أثناء مشاركة الطالب.

Objectives: To determine the attitudes of obstetric and gynecological patients towards medical students' participation in clinical care.

Methods: Patients in an obstetric and gynecological practice in Kingdom of Saudi Arabia, completed a structured self-administered online questionnaire to assess demographic, reproductive and lifestyle

variables that affected their attitude towards the acceptance of medical students' participation in outpatient clinical care.

Results: Out of the 595 women surveyed, 64.7% received perinatal care, while 35.3% received gynecologic care. Women mostly held positive attitudes towards medical students' participation. Women expressed more comfort with medical students' involvement during limited clinical care roles such as obtaining patient's history and physical examinations without a pelvic examination. Women reported higher comfort levels in the presence of female medical students, especially during pelvic examinations. The presence of male medical students caused a significant reduction in patient's comfort.

Conclusion: Our results suggest that women seeking obstetrics and gynecology medical services are accepting students' involvement during the healthcare encounter. Most patients are more comfortable if direct contact with students is minimized and students' participation in medical care is restricted to more limited roles. In addition, the student's gender is a significant determinant of patient's acceptance and comfort during the clinical encounter.

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One of the primary aims of clinical medical education is to provide medical students with the tools to improve their clinical skills and achieve an excellent bedside clinical manner.^{1,2} However, with the widespread requirement of patient consent, an

increasing number of patients feel empowered to refuse the participation of medical students during the physical encounter. Patients often cite discomfort during clinical examinations, privacy concerns about the student's lack of experience.³⁻⁹ As such, more students may not be exposed to enough common clinical encounters and procedures to improve their clinical skills.² This may be mitigated by individual medical student's characteristics as there is evidence that students' communication skills and engagement with patients may play a role in patients' willingness to approve their participation.¹⁰ In this way, some medical students may increase their exposure to clinical encounters.

Studies show that female patients are more easily embarrassed than male patients, and often prefer female students during clinical encounters and physical examinations, especially those of a sensitive nature. This may lead to a decrease in medical student exposure to patients during obstetrics and gynecology rotations. In addition, other factors such as religion, age, race, marital status, previous exposure to medical students, and previous delivery, may also play a role in the patients' comfort and acceptance of medical students' participation.^{3-6,11-13} The presence of health care providers and their request for students' participation may also play a role in patient's acceptance of medical students.^{4,14,15} Despite their concerns, many patients still believe that students' involvement and participation is necessary for their educational progress.

The role of real-as opposed to standardised or simulated-patients in clinical teaching and training cannot be overemphasised as medical students find these experiences more valuable in their educational achievement.¹⁶ However, the willingness of patients to accept students' involvement in medical encounters may serve as a road block for the development of medical students' clinical skills if they are barred from these encounters. It is vital to understand the determinants of patients' acceptance of medical students in order to provide them with the necessary clinical skills to achieve excellence in clinical outcomes.¹⁷ Therefore, our study aims to assess women perceptions, attitudes, and comfort levels regarding the participation of medical students of both genders in order to determine how best to provide the most benefit to both patient and medical student during the clinical encounter.

Disclosure. Authors have no conflict of interests, and the work was not supported or funded by any drug company.

Methods. Study design. We conducted a cross-sectional analysis to determine the attitude, acceptance, and perception of patients towards the participation of medical students in outpatient clinics in the obstetrics and gynecology department. We also aimed to determine how medical student participation affects patient comfort and satisfaction with the clinical encounter. The study investigated women throughout the Kingdom of Saudi Arabia from October 1-30, 2017.

Data collection instrument. We used a modified version of the questionnaire developed by Risk et al,⁴ to determine patient's knowledge, perception and acceptance of the involvement of medical students in outpatient care. We modified the questionnaire only by removing certain questions that were irrelevant to our study. The modified questionnaire included several demographic, reproductive, and lifestyle variables. Study participants were asked about their attitude, acceptance, and perception towards the involvement of medical students throughout the obstetrics and gynecology clerkship. Study participants were also asked whether they were generally satisfied with the level of obstetric and gynecologic care they received and if they were comfortable in the presence of male and female medical students. We used a 5-point Likert scale (1= very uncomfortable; 2= uncomfortable; 3= neutral; 4= comfortable; and 5= very comfortable). The questionnaire was provided to study participants online and was distributed through several popular social media platforms.

Statistical analysis. An Excel spreadsheet was created for data entry, and used to analyses. Frequency tables with percentages, Chi-Square Test (Pearson Chi-Square) and (Fisher's Exact Test) with Linear-by-Linear Association. The N of Valid Cases 595, Computed only for a 2x2 table Exact Sig. (1-sided) $p=0.05$, risk estimate value, odds ratio and of 95% confidence interval lower and upper were added to the data.

Ethical consideration. Confidentiality of the collected data and the participant's privacy were assured, and data were used only for research purposes. The act of completing and submitting the survey by the participant implied consent. The study design received approval from the Bioethics Committee of King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia and is according to the principles of Helsinki Declaration.

Results. This study participants consisted of 595 women who attended obstetrics and gynecology clinic during the study period, 100% of whom completed the self-administered questionnaire. Approximately

64.7% of the women visited the clinic for perinatal care, while the remainder 35.3% visited for gynecologic treatment (Table 1). The socio-demographic and reproductive characteristics of the study population are shown in (Table 2). Most of the respondents were Saudi, of advanced maternal age, multigravida, and had an intermediate family income of 5000-15000 SR. Additionally, a majority of the study participants had a university qualification, and were employed, as were their husbands.

The most frequent gynecologic complaints were infection 27.6% and abnormal uterine bleeding 21.3%, whereas infertility, sensation of prolapse, and chronic

pelvic pain were less common complaints (Table 3). In regards to the perinatal care group, the majority of visits was 75.8% for antenatal follow-up, while the remainder were for booking purposes and postnatal appointments (Table 4).

Patients' opinions and attitudes towards medical students' participation in the obstetric and gynecologic clinic are shown in Table 5. A large number of women in both the perinatal and gynecologic groups considered the medical student as a doctor in training, with no significant difference between the groups. For those women who approved medical student's involvement, the majority in both groups preferred that students' involvement in clinical care should occur alongside the physician. However, a significant number of women receiving perinatal care compared to gynecological care preferred to see the physician alone, without the student ($p=0.009$). For the majority of women completing the questionnaire, the reasons for declining medical students' participation were of the concern about privacy during clinical discussion followed by concerns about privacy during physical examination.

Table 1 - Study population divided by purpose of clinic visit.

Reason for visiting clinic	Frequency	(%)
Perinatal care	385	(64.7)
Gynecological problems	210	(35.3)
Total	595	(100)

Reasons for visiting the clinics were analyzed using the frequency and percentages.

Table 2 - Demographics & characteristics of the study population. N=595

Variables	Perinatal care n=385	Gynecologic problem n=210	Odds ratio 95% CI	P-value
<i>Age in years</i>				
Less than 35 (n=258)	182	76	1.581 (1.119-2.233)	$p<0.006$
Greater than 35 (n=337)	203	134		
<i>Parity</i>				
Primigravida (n=141)	78	63	0.593 (0.403-0.872)	$p<0.005$
Multigravida (n=454)	307	147		
<i>Income in SR</i>				
<5000 (n=70)	45	25	1.398 (0.845-2.315)	$p<0.809$
5000-15000 (n=336)	221	115		
>15000 (n=189)	119	70		
<i>Nationality</i>				
Saudi (n=545)	358	187	1.631 (0.910-2.923)	$p<0.068$
Non-Saudi (n=50)	27	23		
<i>Education</i>				
High school (n=128)	76	52	0.747 (0.500-1.116)	$p<0.094$
University (n=469)	309	158		
<i>Wife's job</i>				
House wife (n=286)	185	101	0.998 (0.713-1.398)	$p<0.530$
Employee (n=309)	200	109		
<i>Husband's job</i>				
No job (n=24)	13	11	0.632 (0.278-1.437)	$p<0.187$
Working (n=579)	372	199		
<i>Smoking status</i>				
No (n=524)	344	180	1.398 (0.845-2.315)	$p<0.121$
Yes (n=71)	41	30		

CI - Confidence Interval, n - number.

Table 3 - Clinical presentation of the gynecologic sub-group.

Presentation	Frequency	(%)
Bleeding	127	(21.3)
Chronic pelvic pain	24	(4.0)
Infertility	53	(8.9)
Infection	164	(27.6)
Others	182	(30.6)
Prolapse	45	(7.6)

Table 4 - Clinical presentation of the perinatal care sub-group.

Presentation	Frequency	(%)
Booking an antenatal visit	69	(11.6)
Follow-up visit	451	(75.8)
Postnatal visit	41	(6.9)
Not for perinatal care visit	34	(5.7)

Despite personal preference at the time of the clinical encounter, the majority of obstetric and gynecologic patients indicated that supervised observation and practice during real patient encounters is the best approach for medical students to acquire clinical skills. Fewer women indicated that observation only without practice with real patients or practice in a skills laboratory on simulated patients and mannequins were the best method for acquiring clinical skills ($p=0.016$). Less than half of both the perinatal group 43.38% and gynecologic group 37.14% had previous clinical encounters with medical students. These encounters were predominantly in the hospital setting rather than the outpatient clinic ($p=0.476$). Compared to the gynecologic clinic group, a significantly higher percent of women in the perinatal care group reported satisfaction with the care received while the students attended the clinic ($p=0.027$).

The comfort level for study participants who accepted female medical students' participation is shown in Table 6. The mean comfort levels were significantly higher in the gynecologic clinic group compared to the perinatal care group during pelvic examination, preoperative counseling, and child birth. Among women receiving perinatal care, the highest comfort levels were achieved during antenatal care, followed by physical examination without pelvic examination and during the patient history. Among women receiving gynecologic treatment, comfort levels were higher during the patient's history, contraception counseling, and preoperative counseling than during pelvic examination or discussion of sexual complaints.

The level of comfort for study participants who accepted male medical students' participation is shown in Table 7. There was a significantly lower mean comfort score among women who received gynecologic care compared to those who received perinatal care. This difference was significant in most of the clinical counseling skills, including contraception and preoperative counseling and discussion of sexual problems as well as in physical examination with pelvic exam.

The comparison of comfort levels between study participants who accepted female versus male medical student participation is shown in Table 8. The overall comfort levels were higher for female students compared to males in both women receiving perinatal and gynecologic care. Overall, women receiving gynecologic care had higher levels of comfort compared to women receiving perinatal care, although this did not reach significance.

Discussion. A vital component of medical education is the transmission of excellent clinical skills to medical students in an effort to maintain the high standard of medical practice.¹ Real time patient interaction, as opposed to standardized or simulated interactions, is essential in developing these core clinical skills in medical students. However, prior research indicates that medical students may not have adequate patient experience, especially in the obstetrics and gynecology clerkship, where patients' privacy concerns may adversely affect their involvement. This may be even more true of Saudi patients, whose cultural and religious attitudes may decrease their acceptance of medical students, especially male students.¹¹ Our study's aim was to assess patients' perceptions, attitudes, and comfort level with the participation of medical students of both genders.

Our study demonstrated that women attending obstetric and gynecologic clinics accepted medical student involvement and further considered them part of the medical team. This favorable attitude towards medical students is manifested by patients' declared support of medical students' participation in clinical practice and the belief that a real patient encounters are the most effective method for improving clinical skills in obstetrics and gynecology. This is consistent with research across multiple medical specialties indicating patients treated in teaching hospitals were willing to have medical students as part of their medical team.^{5,10,18,19}

We also found that prior exposure to medical students is associated with increased patient's satisfaction with medical care. This is consistent with research showing

Table 5 - Opinions and attitudes regarding medical students in obstetric and gynecologic care.

Survey questions	Perinatal care n=385	Gynecologic problem n=210	P-value
<i>Patient's perception of student role</i>			
Student alone	97	57	p=0.925
Member of the clinical team	90	51	
Consultant/specialist's helper	19	10	
Doctor in training	179	92	
<i>Preferences of the student's involvement</i>			
Physician alone without student	178	68	p=0.009
Physician and student concurrently	168	117	
Student following Physician discussion	31	22	
Student prior to Physician discussion	8	3	
<i>Reasons for dismissing student's involvement</i>			
Privacy during examination	61	39	p<0.871
Privacy during discussion	152	102	
Uncertain regarding medical student's involvement	19	15	
<i>The best method for student education</i>			
Observation, without practice on patients	75	39	p=0.016
Observation and practice under supervision	228	143	
Observation and practice without supervision	4	5	
Practice in a skills laboratory on simulated patients and mannequins	78	23	
<i>Did a medical student ever attend with you?</i>			
Yes	167	78	p=0.082
No	218	132	
<i>Site of student's encounter</i>			
Clinic	50	25	p=0.476
Hospital	148	70	
<i>Experience of student attending clinic</i>			
I received satisfactory care	104	41	p=0.027
Nurses and staff informed me of further care and helped me	53	42	
I received unsatisfactory care and had adverse feelings	35	14	

Table 6 - Comfort level of study participants accepting the involvement of female medical students learning core obstetrics and gynecology skills (in perinatal care & gynecology clinics).

Skills	Perinatal care Mean±SD	Gynecologic Mean±SD	P-value
History	3.28±1.103	3.38±1.061	.280
Physical examination, without pelvic	3.34±.992	3.29±.996	.580
Physical examination, including pelvic	2.24±1.113	2.49±1.207	.012
Asking for birth control advice	3.21±1.052	3.32±1.030	.204
Discussing sexual complaints	2.30±1.151	2.45±1.245	.151
Receiving preoperative counseling	3.10±1.152	3.31±1.189	.029
Attending for antenatal care	3.67±.975	3.75±1.006	.376
Coming for childbirth	2.61±1.292	2.92±1.279	.006

SD - standard deviation

that obstetric and gynecologic patients with previous contact with medical students were more willing to accept medical students and felt more comfortable with their care.¹¹ Research shows that patients directly benefit from medical students' involvement. Clinic visits involving medical students are characterized by

longer consultation time, an additional medical opinion and more detailed clinical examination and patient counseling. Such visits also allow patients to satisfy their altruistic desire to educate future physicians.^{20,21}

Our findings are consistent with Saudi patients' attitudes towards medical students. Specifically, studies

Table 7 - Comfort level of study participants accepting the involvement of male medical students learning core obstetrics and gynecology skills (in perinatal care & gynecology clinics).

Skills	Perinatal care	Gynecologic	P-value
	Mean±SD		
History	3.38±1.203	2.78±1.145	.993
Physical examination, without pelvic	3.29±1.163	2.86±1.105	.370
Physical examination, including pelvic	2.49±.979	2.04±1.097	.005
Asking for birth control advice	3.32±1.162	2.85±1.191	.005
Discussing sexual complaints	2.45±.999	2.08±1.121	.002
Receiving preoperative counseling	3.31±1.184	2.97±1.249	.003
Attending for antenatal care	3.75±1.158	3.15±1.172	.163
Coming for childbirth	2.92±1.147	2.31±1.251	.001

SD - standard deviation.

Table 8 - Comparison of the comfort level of study participants accepting the involvement of female versus male medical student learning core obstetrics and gynecology skills (in perinatal care & gynecology clinics).

Mean±SD score	Perinatal care	Gynecologic problem	Total	P-value
	n=385	n=210		
Female student score	23.7±6.4	24.9±6.7	24.2±6.5	0.038
Male student score	19.4±7.1	21.1±7.4	19.9±7.2	0.007

Score - sum of the rating of the questions (minimum= 8, maximum= 40), N - number, SD - standard deviation.

evaluating patients in the Central and Western regions of the Kingdom of Saudi Arabia. These studies indicate that these obstetric and gynecologic patients accept medical students as part of their clinical care providers.^{11,22} Despite this, many of the surveyed women are most comfortable with clinical encounters that limit the extent of medical students' involvement in recording patients' history, observing or providing clinical counseling and performing or observing physical examinations without pelvic examination.

This is not surprising as the literature indicates that some medical patients are more restrictive of medical students' involvement. For example, patients in the Kuwait Faculty of Medicine teaching hospitals, in Kuwait were receptive to medical students participation in reading medical files and attending ward rounds but not to perform physical examinations.¹⁰ A systemic review by Mol et al,¹⁹ also demonstrated a variation in patients' acceptance of medical students' involvement. History taking was almost universally accepted, followed by clinical examinations, whereas invasive procedures such as venipuncture were least likely to be accepted. Similar to our findings, these patients were also uncomfortable with discussing sensitive subjects such as sexual history when students were involved.

The gender of the medical student plays a prominent role in patient's acceptance in obstetric and gynecologic clinical encounters. Consistent with prior studies, both obstetric and gynecologic patients partnered with female medical students reported significantly more comfort as compared to patients partnered with male medical students. Patients cited concerns regarding privacy during the physical examination and confidentiality when discussing sensitive topics such as reasons for their discomfort. This is consistent with research showing that obstetrics and gynecology patients are unlikely to accept male students compared to patients in other medical specialties.¹⁰ Passaperuma et al,²³ reported higher patients' satisfaction with female compared to male students (4.0 versus 3.5 on a five-point scale) and a study performed on obstetrics and gynecologic patients in the United Arab Emirates showed significantly more comfort with female medical students.⁴

Patients' discomfort with male medical students is likely related to religious and cultural factors, in addition to the concern of sharing personal information such as sexual history.¹¹ Saudi women, who may have traditional values and subscribe to religious doctrine that shuns casual intimacy across genders, may find it less palatable to speak candidly or be examined by

males, even in clinical settings. It is important to identify culturally sensitive methods to assuage patients' concerns about male medical students' involvement and improve patients' comfort. This is especially salient as there is an increasing gender discrepancy of physicians who are specialized in obstetrics and gynecology. As a result, male students may face reduced clinical exposure in this field if patients chose to limit their involvement in clinical care.

Our study furthers the medical literature on this topic by contrasting differences between gynecological and obstetric patients. Here, gynecological patients were more accepting of medical students compared to obstetric patients. Despite this, obstetric patients were more likely to be satisfied with clinical visits involving medical students. More research is needed to determine the reason for these discrepancies in an effort to harness any differences that increase patients' acceptance and satisfaction with medical students.

The study is limited by its cross-sectional nature. As such, we are unable to determine longitudinal changes in patients' perception of medical students or causality between patient or study characteristics and acceptance of medical students' involvement. In addition, our study population is not heterogeneous, but oversampled from older and more highly educated women of Saudi descent. As such, the findings may not be generalizable to wider populations. In addition, we modified a previously validated questionnaire to evaluate obstetric and gynecologic patients' perceptions of medical students developed by Rizk et al,⁴ As this modification has not been verified, we may have introduced some bias into our study.

Future research should evaluate the characteristics of the clinical environment that affects patient's acceptance of medical students. For example, prior research shows that patients of female surgeons were less likely to be accepting of medical students.¹⁵ Some physicians may be unaware of this bias and enlisting them in real time to advocate for medical student involvement, may increase patients' acceptance of the student.^{4,14} Interestingly, many women subscribed to the notion that medical students should be involved in patients' clinical contact, yet found it difficult to apply this belief to their personal clinical visits. Increasing patients' comfort while reminding them of the benefit of medical students' involvement may augment medical students roles in clinical care. Without improved access to patients, medical students are unlikely to gain the valuable clinical skills required to ensure the continued high quality medical care for future patients.

In conclusion, our study finds that while women seeking obstetrics and gynecology medical services in teaching hospitals are accepting of medical students' involvement during healthcare encounters, they prefer their clinical roles to be kept to a minimum. Furthermore, the gender of the medical student has a primary role in the patient's acceptance and comfort with student's participation. More research is needed to identify best practices in improving patients acceptance of medical students' participation in order to maintain high quality medical education.

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 - The following are the typical headings:
Objectives (background, why the study was done, specific aims)
Methods (setting, date of study, design, subjects, intervention and analysis)
Results (findings, data and statistical tests) and
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