

Patients' Perception toward Medical Students' Involvement in Operation Theater: A Descriptive Cross-Sectional Study

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Article Info	Abstract
<p>Article History</p> <p>Received: June 18, 2021</p> <p>Accepted: January 22, 2022</p> <hr/> <p>Keywords : Patients, Undergraduate Medical Students, Operation Theater, Medical education.</p> <p>DOI: 10.5281/zenodo.5894742</p>	<p><i>Objectives: To investigate the patients' perception regarding undergraduate medical students' role in their surgical care especially in the operation theatre. Methodology: A descriptive cross-sectional study using a convenience sampling technique was conducted on 150 participants who had surgery in their past. This study was carried from October 2018 to December 2018 in surgical units of civil hospital Karachi, Pakistan after approval from the Ethics committee of Dow University of Health Sciences, Karachi, Pakistan. Results: 58.7% of study participants were aged greater than 30 years, while 41.3% were aged less than 30 years. 64.7% of patients allowed medical students to be present during their surgery and 86.7% believed that medical students should obtain patient consent before being observers in Operation Theater. The majority of the patients assumed that it is essential for students to present during surgery of which 44.7% said very important and 38.7% said important. Almost half of the patients were comfortable with 2 to 3 medical students during surgery and 42% of patients were comfortable with 0 to 1 medical student. Conclusion: The overall attitude of the patient towards the involvement of undergraduate medical students did not seem encouraging. Most of the participants wished to be informed in advance with a consent form that a medical student will be present during their surgery. Patients preferred less number of medical students in the operation room.</i></p>

Introduction

Clinical exposure of Undergraduate medical students' is vital to relate medical school education to actual clinical practice. The patient is the focus of clinical teaching at hospitals and experience with patients helps in the development of clinical skills for patient care, clinical diagnosis, interviewing skills, and evidence-based practice.¹ Numerous studies have been conducted across the major specialties to understand the feelings of the patient about medical students involved in their care, with the majority of studies reporting overall positive feelings of patients toward student involvement in their medical care. However, this opinion may vary, primarily based on patients' personal experience to medical care²⁻⁷ and overall patient acceptance toward student participation in medical education lies between medical altruism and the need for patients privacy and it can not be assumed that patient will participate in medical education voluntarily⁸.

Additionally, a previous study reported that the comfort level of patients declined specifically when medical students were involved in an invasive procedure.⁹ theatre-based teaching is fundamental to clinical undergraduate teaching where the student participates in learning on the patient as observers or participants.¹⁰ In operation theatre patient may not be able to exercise the right to consent for level participation of the undergraduate medical student in surgical procedure and this may lead to discomfort and reluctance of patient for student participation in a surgical procedure.¹¹

In Pakistan, unfortunately, there was no study reported to date regarding patients' perception toward medical students' involvement in operation theater care, and this study was conducted to understand any variation in the perception of patients toward medical students' involvement specifically in Operation Theater.

Methodology:

A descriptive cross-sectional study was conducted based on one-on-one interviews by using a structured questionnaire with a convenience sampling of patients from surgical units of Ruth KM. Pfau, Civil Hospital Karachi, Pakistan from October 2018 to December 2018. The patients who had surgery and exposure to medical students in Operation Theaters were included. A sample size of 150 patients with the categories of less and greater than 30 years of age was selected from the target population by using open-Epi.

Ethical consideration

Informed consent was obtained from the respondents before the administration of the questionnaire. The anonymity of the participants was assured. The study protocol was approved by the Institutional Review Board of the Dow University of Health Sciences, Karachi, Pakistan.

Statistical analysis:

In our analysis, continuous parametric data were reported as mean with standard deviation and categorical data as proportions. The difference between the categorical variables was assessed using the chi-square, while the student's T-test was used to evaluate the variance in continuous parametric variables. Alpha was set at 5% and p-value <0.05 was considered statistically significant. The analysis was done on SPSS (Version 24; SPSS, Inc., Chicago, IL).

Results:

A total of 150 patients were interviewed in this study. 88 (58.7%) patients had their age greater than 30 years, while 62 (41.3%) patients were less than 30 years of age. 54.7% of the participants were males, and 78% of the participants were married. The education level of most of the patients was either until primary 44 (29.3%) or secondary 68 (45.3%) school level. (Table 1).

		n	%
Age	<30 years	62	41.3
	>30 years	88	58.7
Gender	Male	82	54.7
	Female	68	45.3
Education	Non Formal	30	20
	Primary	44	29.3
	Secondary	68	45.3
	University	8	5.3
Marital Status	Single	21	14
	Married	117	78
	Others	12	8

Note: n=frequency, %=percentage

Patients' Reactions toward the Presence of Medical Students in Operation Theater:

97 (64.7%) patients preferred medical students to be present during their surgery. Of the patients interviewed, most of them 130 (86.7%) believed that medical students should obtain patient consent before being observers in the operation theater. The majority 132 (88%) of the study participants responded that they have the right to refuse medical students in Operation Theater.

	Yes	No
Questions	n (%)	n (%)
Would you permit medical students to be present during surgery?	97 (64.7)	53 (35.3)
Do you believe that medical students should obtain patient consent to be observers?	130 (86.7)	20 (13.3)
Do you believe that you have the right to refuse medical students in operation theater?	132 (88)	18 (12)
Will the type of surgery affect your decision about the medical student involvement?	140 (93.3)	10 (6.7)

93.3 % of patients reported that the type of surgery would affect their decision on the involvement of medical students (Table 2).

Patients' Views of Medical Student Involvement in Operation Theater:

The majority of the patients assumed that it is essential for students to present in Operation Theater during surgery of which 44.7% said very important and 38.7% said importantly. Almost half of the patients were comfortable with 2 to 3 medical students during surgery and 63(42%) patients were comfortable with 0 to 1 medical student. 104 (69.3%) patients were comfortable with the presence of both undergraduate and graduate trainees during the surgery. 40% of the patients perceived that medical students should be observers in the surgery, 33% thought that they should participate in surgery and 27% thought that they should perform a minor procedure (Figure 1).

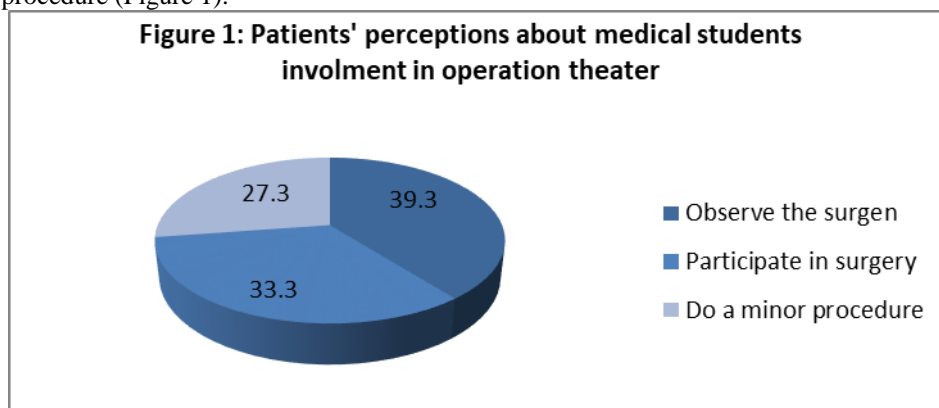


Table 3: Patients' Views of Medical Student Involvement in Operation theater (n=150)

	n	%
How much important that medical students present in the operation room during surgery?		
Very important	67	44.7
Important	58	38.7
Not sure	20	13.3
Not so important	4	2.7
Unnecessary	1	0.7
How many medical students would you be comfortable with?		
0-1 Medical student	63	42
2-3 Medical students	72	48
4-5 Medical students	15	10
Which level of student training year would you be comfortable with?		
Graduate	38	25.3
undergraduate	8	5.3
No difference	104	69.3

Discussion:

Our study revealed that the majority of patients exhibited a high degree of acceptance and comfort towards the involvement of medical students in the operation theatre. previous studies have reported high acceptance for medical students by the patients. Although this acceptance of patients for the medical student may differ across the specialties depending on the experience of the patient, gender of the student, and the invasiveness of procedure²⁻⁷. In contrast, a few studies from the middle east observed low acceptance of students' presence in the operation theatre, probably related to the values and beliefs of participants of this region.^{12,13} Furthermore, result from our study reveal that patients' acceptance of the medical student was not related to gender, educational or marital status of the patient, and medical altruism probably being the primary reason behind this high acceptance of medical students for teaching purpose in the operation theatre.

Although our study reported high acceptance of medical students in operation theatre by the patients, the majority of the participants thought that medical students should obtain prior consent from participants before

the surgical procedure. Although patients were comfortable with medical teaching in wards, they preferred that students must take consent before teaching in the operation theatre. During a surgical procedure, patients do not have the liberty to approve or disapprove of the extent of participation of the medical student in a surgical procedure. Lack of complete understanding of surgical procedure may also contribute to the discomfort of the patient to participate in operation theatre. Leung and Patil concluded that patients' acceptance of medical students' involvement in bedside teaching should not be considered implicit consent to medical students in the operation theatre. Their results emphasized the need to obtain clear patient consent before allowing student observers in the operating theatre awareness status in the operation compared to other settings¹⁰. Similarly, Al khatib et al in their study at an academic teaching hospital found that 81.6% of participants preferred medical students to obtain their consent to participate in teaching at the operation room.¹³

Students have been exposed to an operation theatre environment so they can relate the theory to practice and understand the technical skills required during a surgical procedure. For patients, this means the participation of medical students in a surgical procedure on them. Previous studies have demonstrated that patients' acceptance of medical students' involvement declines with the invasiveness of the procedure.^{14,15} In a survey on medical student participation in invasive procedures in the emergency department, Grabber et al found that the majority of participants showed their reluctance for the medical students to perform the first procedure on them. Additionally, the majority of participants disapproved of medical students performing any invasive procedures.⁹ In our study, the majority (88%) of the participants thought that they have the right to refuse medical students in surgery. On the contrary, Al-Khatib et al reported that only half of the participants acknowledged their right to refuse medical students during surgical procedures and related this to patients' privacy concerns.¹³

Although the Majority (70%) of the participant accepted that level of student training in the theatre did not affect their comfort level comfortable, however, some (25%) preferred the presence of a graduate over an undergraduate in an operation theatre. Additionally, the majority of the patients understood the importance of medical students in Operation Theater during surgery, Al-Khatib et al also reported awareness of participants for the importance of students in an operation theatre, nevertheless, this study patient preferred role of students to be limited to observation only and participants were equally divided about the role of residents in the operation theatre.

Another interesting finding in this study was related to the desired numbers of a student by the patients in theatre. Although patients were overall comfortable with the presence of students in the operation theatre and the importance of training of medical students in theatre, however, participants were not comfortable with a large number of students in the operation theatre. The majority of participants preferred only a few medical students in the Operation theater. The presence of many untrained students around the patient leads to anxiety and makes the patient uncomfortable before and during a procedure. This was endorsed in a previous study which reported that patients were only comfortable with less than two medical students during surgery.¹³

A survey by Chipp et al concluded that patients' approval for the involvement of medical students in medical care depended on the patient, the student, and the procedure being undertaken.¹⁵ Similarly, In a systemic review of 59 articles on patients' perception toward the medical student, Vaughn and Davis et al found that patients' acceptance of medical student participation varied widely between studies and mainly depended on the type of participation. In this study 40% of the patients preferred that that medical students should be observers in the surgery, 33% preferred that they should participate in surgery and 27% preferred that they should perform a minor procedure.¹⁶ Likewise, previous studies observed that the comfort of a student with student decreased as the risk with invasive procedure increased.^{10,15}

There were a few limitations in our study for instance Questionnaire was not validated and the Lickert scale was not utilized to gauge the depth of response. This study was a single-center study and a convenient sampling technique was utilized, hence results from our study may apply to institutions with similar characteristics.

Conclusion:

The patients aged more than 30 years were compliant with the presence of medical students in OR during surgery. The attitude towards the education of medical students did not seem encouraging. Most of the participants wished to be informed in advance with a consent form that a medical student will be present during their surgery. Patients preferred a smaller number of medical students in the operation room. Therefore, it is needed that patients should be educated properly about the essential factor of Operating room exposure for medical students' education along with the assurance of no harm to their surgical procedure, in addition to taking informed consent for allowing the presence of medical students in the OR.

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