



Patients' Perception & Attitude Towards Medical Students' Involvement In Patient Care: A Cross Sectional Study At A Tertiary Care Teaching Hospital In Maharashtra

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ABSTRACT

Background: Participation of patients in medical education helps students to gain practical experience & also to improve their communication. Patients' acceptance of involvement of medical students in their care depends on many factors.

Objectives: We assessed whether the patients accept or reject medical students for their care. This study determined reasons for acceptance or rejection of the medical students by patients. We also studied the relationship between the patients' demographic factors and their decision regarding involvement of students in their care.

Methods: This study was conducted among patients attending Medicine, General Surgery, Ophthalmology and Obstetrics and Gynecology outpatient departments of a tertiary care teaching hospital in Maharashtra from 15th June 2021 to 31st July 2021.

Results: The participants were aged between 18 and 70 years with the mean age 34.99 years. Out of the 200 participants, 102(51%) were males while 98(49%) were females. About half of the participants 101(50.5%) were Hindus. Majority of the participants 174 (87%) were willing to allow students in their care. Patients' education was significantly associated with their acceptance for medical students in their care ($P < 0.05$).

Conclusion: Most of the patients accepted medical students in their care.

Key Words: Attitude, Medical Students, Patient care, Patient's Perception



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INTRODUCTION

Medical students' interaction with patients is a crucial component of medical education. It helps students to link their theoretical knowledge with practical experience & also to improve their communication skills. Thus, a key element in medical education is the patient's willingness & comfort with involving medical students in their care.

Nowadays patients are very much aware about their rights. They are also aware that they can allow or deny presence of medical students during their care. Studies have shown that patients generally accept medical students' involvement in their care.^[1,2] The reason may be that they want to contribute to medical education^[1,3,4], extra time spent by treating physicians & comfortable reception by students.

The increasing appearance of the students in patient care is associated with patient dissatisfaction. Because the patients perceive that it reduces physicians' contact time, compromises patients' privacy & confidentiality.^[2] Their previous experiences with medical students, the nature of their problem, understanding of role & responsibility of students; the attire, behavior & gender of the student; the age, gender & educational level of the patients are some of the factors that may affect patient's willingness & comfort level with students.^[5]

Worldwide many research has been conducted on this topic. But in India, scanty information is available on this subject. Hence the current study was designed to analyze the views of patients regarding the involvement of students in their care.

The objectives of this study are:

1. To assess whether the patients accept medical students in their care.
2. To determine the reasons for accepting or rejecting medical students in patient care.

- To study the relationship between the patients' socio-demographic factors & their decision regarding involvement of students in their care.

MATERIALS & METHODS

The study was conducted after obtaining approval from the Institutional Ethics Committee. Patients in a tertiary care teaching hospital were enrolled in the study after obtaining their written informed consent.

Study design

This descriptive cross-sectional study was conducted at a tertiary care teaching hospital in Maharashtra, India between 15th June 2021 to 31st July 2021. Patients attending outpatient clinics of the department of Medicine, Surgery, Obstetrics and Gynaecology (OBGY) & Ophthalmology between 10th July 2021 & 16th July 2021 were approached during their waiting period at OPD.

Sample Size

A total of 200 adult patients who attended the outpatient clinic of the Medicine, General Surgery, Ophthalmology, Obstetrics, and Gynecology (OBGY) departments between 10th July 2021 & 16th July 2021 were interviewed. Patients less than 18 yrs age, mentally ill patients, clinically unstable or critically ill patients were not included in the study.

The sample size was calculated as below:

A prevalence rate of 90% was assumed for patients accepting medical students in their care.

Using the following formula:^[6]

$$n = \frac{pq}{(e/1.96)^2}$$

Where n = sample size

p = working prevalence rate 90%

q = 100 – P = 100-90 = 10%

e = margin of error to be tolerated at 95% degree of confidence = 5%

n = 10 x 90 / (5/1.96)² = 138.46

Assuming 10% attrition = 10 x 138.46/100 = 13.846

Adjusted samples size = 13.846 + 138.46

= 152

Working samples size = 200 patients

Sampling method^[6]

Initially using a simple random sampling four departments were selected from all the departments in the hospital. Then using a systematic, quota sampling method, patients were selected from the chosen departments. An average of 100 patients visited the clinics daily. An equal number of patients were interviewed in the selected departments. To get our total sample size of 200 patients, every ninth registered patient was interviewed.

Data collection

A well-structured questionnaire comprised of questions on the bio-data of the patient, patient's history of contact with medical students and their experiences & the patient's attitude to the involvement of medical students in their care.^[6]

Data analysis

Firstly the data entered into an Excel sheet and then analysis done using the Statistical Package for the Social Sciences (SPSS) version 25.0. The Chi-square was used as test of significance to test the relationship between socio-demographic factors of the patients and their acceptance of students in hospital care.

RESULTS

Two hundred (200) patients attending OPD of the selected departments of hospital were interviewed.

Respondent's age ranged between 18 and 70 years. (Table 1). One hundred & two (51%) participants out of the 200 were males while 98 (49%) were females.

Medicine outpatient department (OPD) had 33 males and 17 female participants, there were 39 males and 11 female patients from surgery; 30 males and 20 female patients from ophthalmology; while 50 patients from the obstetrics & gynecology OPD (**Table 1**).

Table 1: Socio demographic data of the respondents (n=200)

Demographics	Medicine n=50(%)	Surgery n=50(%)	Ophthalmology n=50(%)	Obstetrics &Gynaecology n=50(%)	Total n=200(%)
Age(Years)					
18-27 yrs	21(42)	10(20)	13(26)	34(68)	78(39)
28-37 yrs	13(26)	17(34)	10(20)	12(24)	52(26)
38-47 yrs	7(14)	13(26)	9(18)	1(2)	30(15)
48-57 yrs	7(14)	6(12)	8(16)	0	21(10.5)
58-67 yrs	1(2)	4(8)	10(20)	2(4)	17(8.5)
68 & above	1(2)	0	0	1(2)	2(1)
Religion					
Hindu	29(58)	22(44)	28(56)	22(44)	101(50.5)
Muslim	16(32)	23(46)	21(42)	27(54)	87(43.5)
Others	5(10)	5(10)	1(2)	1(2)	12(6)
Marital Status					
Unmarried	15(30)	4(8)	8(16)	4(8)	31(15.5)
Married	31(62)	45(90)	35(70)	44(88)	155(77.5)
Divorced	3(6)	1(2)	2(4)	0	6(3)
Widowed	1(2)	0	5(10)	2(4)	8(4)
Educational Status					
Illiterate	7(14)	17(34)	14(28)	10(20)	48(24)
Primary	16(32)	15(30)	15(30)	26(52)	72(36)
Secondary	16(32)	15(30)	14(28)	9(18)	54(27)
Higher Secondary & Above	11(22)	3(6)	7(14)	5(10)	26(13)
Gender					
Male	33(66)	39(78)	30(60)	0	102(51)
Female	17(34)	11(22)	20(40)	50(100)	98(49)

About half 101(50.5%) of the patients were Hindu by religion. 87 (43.5%) patients were Muslims & remaining 12 (6%) were from other religions. (**Table 1**). Seventy-two(36%)patients had taken primary education.54 (27%)patients had completed secondary education; 26 (13%) had taken higher secondary & above education, while 48 (24%) were illiterate (**Table 1**). Majority 156 (78%) of the participants were married. 31 (15.5%) were unmarried while remaining 14 (7%) were either widowed or divorced (**Table 1**).

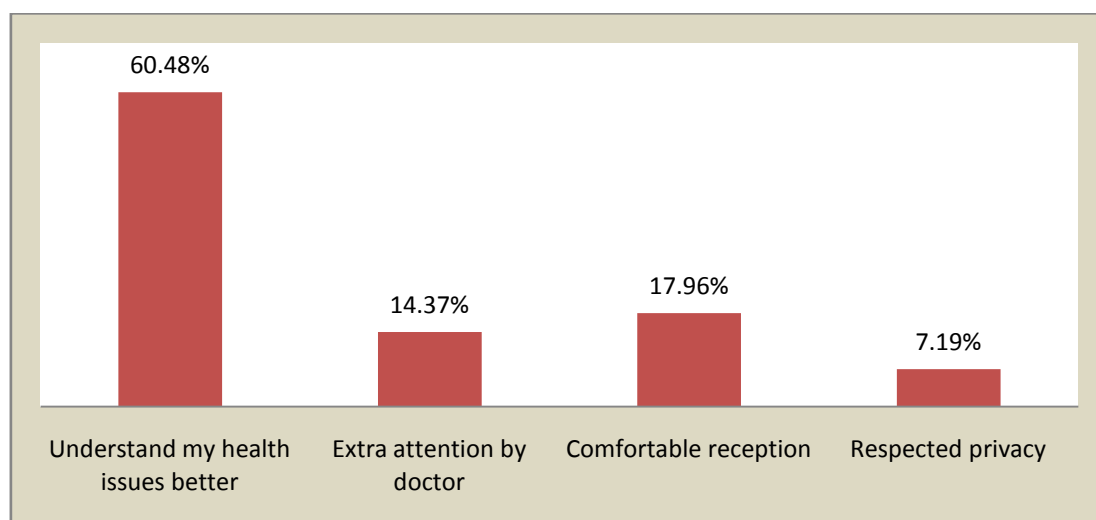


Fig. 1:Reasons why respondents with previous positive contact with medical students approved of their presence during treatment

Most (176) patients had interaction with medical students during their previous hospital visit while 24 patients never had interaction with students. 167 (94.89%) out of 176 patients had a positive experience. Out of 167, one hundred one (60.48%) patients believed that their interaction with students helped them understand their health better. 30 (17.96%) patients felt easy to communicate with the students than senior doctors, 24 (14.37%) thought that doctor pay more attention after interaction with students while 12 (7.19%) felt that their privacy was maintained (**Figure 1**). Of the 9 respondents with negative previous contact, 2 (22.22%) disliked the poor mannerism of the students; 2 (22.22%) felt that it prolonged the consultation time, while 5 (55.56%) complained about large number of students. (**Figure 2**).

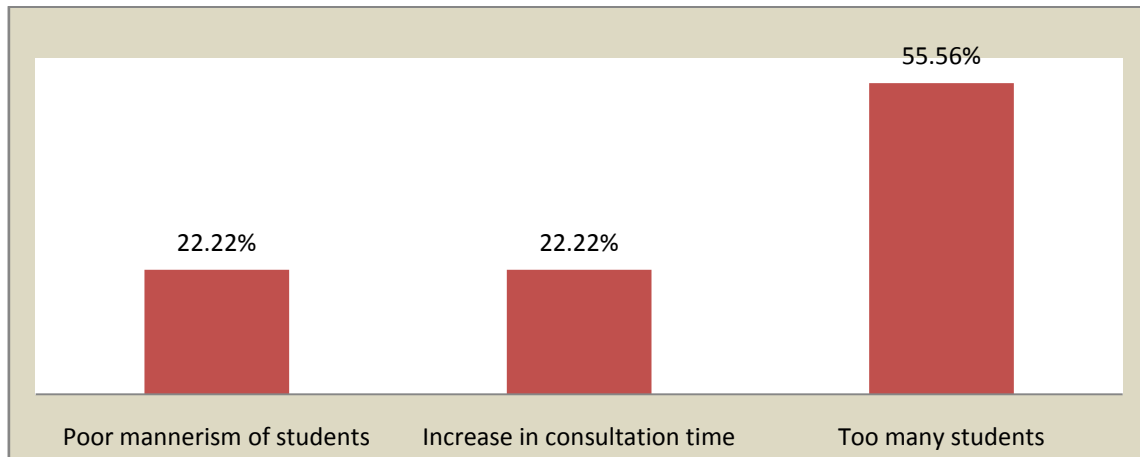


Fig. 2: Reasons for previous unpleasant experience with medical students

All 174 respondents who accepted medical students also indicated 100% acceptance to history taking; 156 (90%) respondents were willing to allow students for observation during examination by the doctor, while 92 (53%) were willing to allow examination by medical students (**Figure 3**).

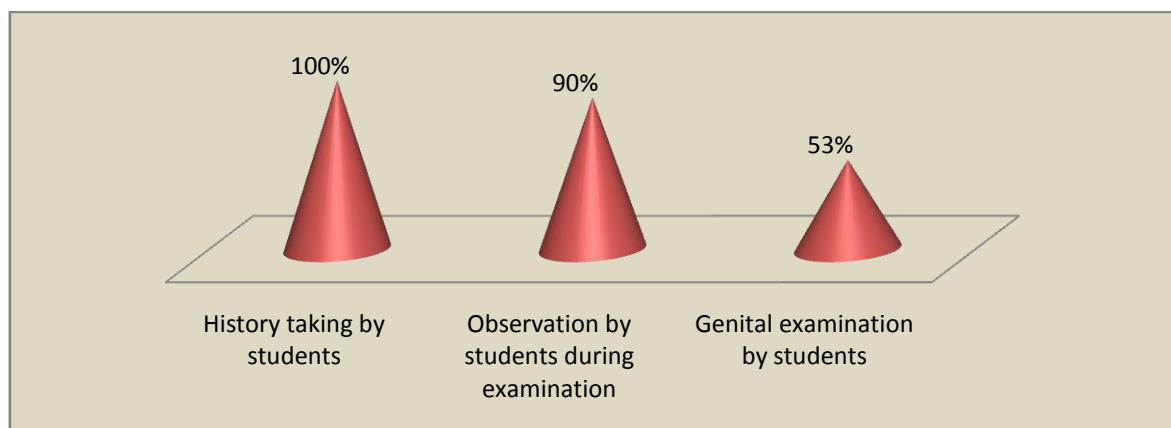


Fig. 3: Respondents' willingness to allow students' participation in different aspects of their care

While one hundred and seventy-four (87%) respondents accepted to allow students in their care; 19 (9.5%) respondents rejected it. The remaining 7 (3.5%) respondents could not decide about involvement of students in their care (**Figure 4**).

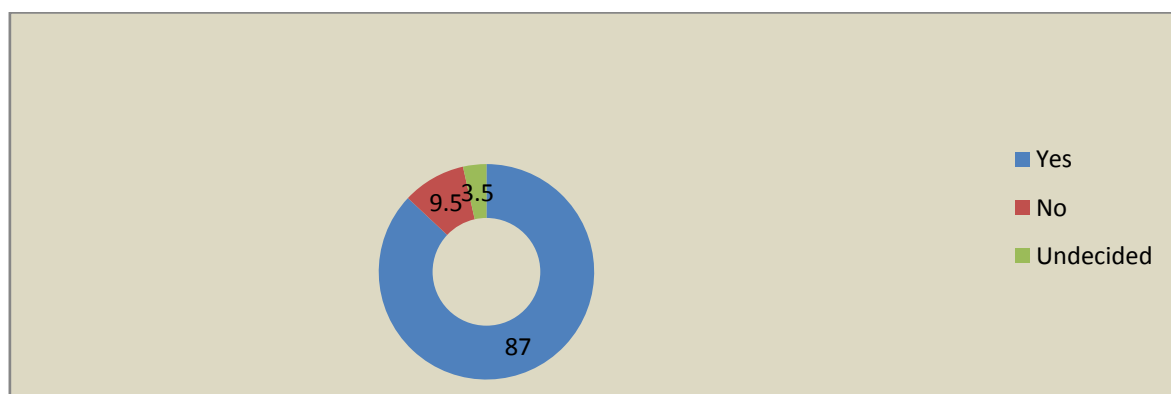


Fig. 4: Respondents' Willingness to allow medical students participate in their care

There was no significant relationship between age, gender, religion & marital status of the patients and their willingness to involve medical students in their care. Their acceptance of medical students was also independent of the clinic they attended. Patients' educational status was significantly associated with their willingness to accept medical students for their care (Table 2).

Table 2: Socio demographic characteristics of respondents & their willingness to accept students in their care

Socio Demographic characteristics	Willingness of respondents, n=200(%)			Test of significance	
	Yes n=174(%)	No n=19(%)	Undecided n=7(%)	X ² value	P value
Clinic attended					
Medicine	41(82)	5(10)	4(8)	7.09	0.31
Surgery	47(94)	2(4)	1(2)		
Ophthalmology	44(88)	5(10)	1(2)		
Obstetrics &Gynaecology	42(84)	7(14)	1(2)		
Age (Years)					
18-27 yrs	63(80.77)	12(15.38)	3(3.85)	8.42	0.56
28-37 yrs	47(90.39)	4(7.69)	1(1.92)		
38-47 yrs	26(86.66)	2(6.67)	2(6.67)		
48-57 yrs	19(90.48)	1(4.76)	1(4.76)		
58-67 yrs	17(100)	0	0		
68 & above	2(100)	0	0		
Religion					
Hindu	84(83.17)	10(9.90)	7(6.93)	7.16	0.12
Muslim	79(90.80)	8(9.20)	0		
Others	11(91.67)	1(8.33)	0		
Marital Status					
Unmarried	23(74.19)	5(16.13)	3(9.68)	7.87	0.24
Married	137(88.39)	14(9.03)	4(2.58)		
Divorced	6(100)	0	0		
Widowed	8(100)	0	0		
Educational Status					
Illiterate	44(91.67)	4(8.33)	0	14.38	0.02*
Primary	64(88.89)	8(11.11)	0		
Secondary	47(87.03)	4(7.41)	3(5.56)		
Higher Secondary & Above	19(73.08)	3(11.54)	4(15.38)		
Gender					
Male	92(90.20)	8(7.84)	2(1.96)	2.33	0.31
Female	82(83.68)	11(11.22)	5(5.10)		

*p value(<0.05) is statistically significant

Among 19 patients who rejected medical students for their care; 7 had unfavorable experience with students; 4 (21%) were concerned about privacy; 7 (36.8%) felt uncomfortable in their presence; while 1 did so because of lack confidence about students (Table 3).

Table 3: Respondents' reasons for rejecting medical students' participation in their care (n=19)

Reasons	Medicine n=5(%)	Surgery n=2(%)	Ophthalmology n=5(%)	Obstetrics & Gynaecology n=7(%)	Total n=19(%)
Unfavorable past experience	2(40)	0	3(60)	2(28.57)	7(36.84)
I have concerns about my privacy	1(20)	0	0	3(42.86)	4(21.05)
I feel uncomfortable when they are around	1(20)	2(100)	2(40)	2(28.57)	7(36.84)
I have no confidence in the students	1(20)	0	0	0	1(5.26)

Out of 174 patients who were ready to involve medical students in their care, for 72 (41.38%) it did not matter who attend them. 17(9.77%) patients thought that interaction with students helped them understand their health better, while 85 (48.85%) patients allowed students because they perceived it was an important learning process for the medical students (**Table 4**).

Table 4: Respondents' reasons for accepting medical students' participation in their care(n=174)

Reasons	Medicine n= 41(%)	Surgery n= 47(%)	Ophthalmology n= 44(%)	Obstetrics &Gynecology n= 42(%)	Total n=174(%)
It is immaterial who attends to me	9(21.95)	27(57.45)	18(40.91)	18(42.86)	72(41.38)
it is an important learning process for future doctor	28(68.29)	17(36.17)	21(47.73)	19(45.24)	85(48.85)
it helps me understand my condition better	4(9.76)	3(6.38)	5(11.36)	5(11.90)	17(9.77)

Most of the patients (92%) believe that they have the right to refuse medical students. About 90.5% of patients answered that they would prefer the presence of a doctor while history taking or examination by the student. Most of the patients (94%) were of the opinion that students should take consent before the examination, while for 78.5% patients, appearance & manner of the student matters their cooperation with students. (**Fig. 5**)

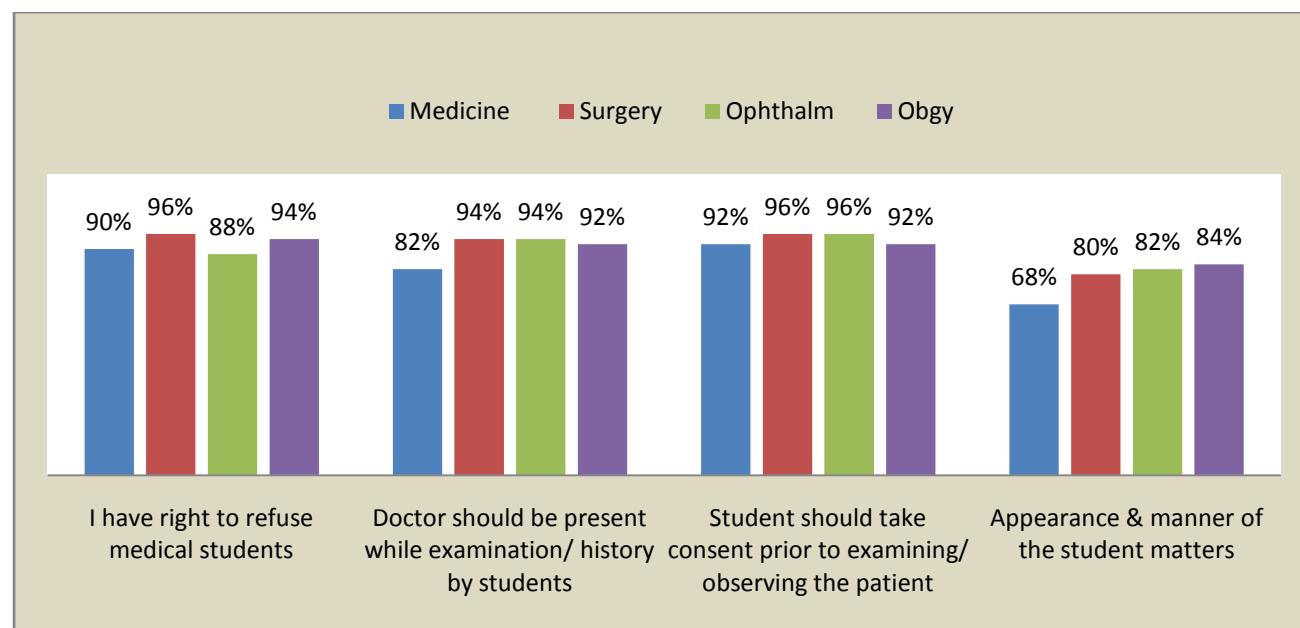


Fig.5: Respondents' attitude towards students' involvement in future patient care

When asked about the optimum number of students, most patients answered that they will be comfortable with one or two students. Regarding the training year of the students, the majority (40.5%) patients would be comfortable with 4th-year students. 36% of patients said that for them training year of the student will not matter. Regarding the gender of the students preferred, 52.5% of patients said that they will be comfortable with any gender male or female. In OBGY OPD patients said that they would prefer female students more over male. (**Table 5**)

Table 5: Respondents' attitude towards students' involvement in future patient care

Attitude		Clinic attended				Total n=200(%)
		Medicine n=50(%)	Surgery n=50(%)	Ophthalmology n=50(%)	Obstetrics &Gynecology n=50(%)	
Number of students comfortable with	1	10(20)	12(24)	13(26)	14(28)	49(24.5)
	2	12(24)	11(22)	22(44)	16(32)	61(30.5)
	3	11(22)	14(28)	8(16)	9(18)	42(21)
	More than 3	17(34)	13(26)	7(14)	11(22)	48(24)
	Difference					
Student's training year comfortable with	2 nd	3(6)	5(10)	2(4)	2(4)	12(6)
	3 rd	8(16)	5(10)	11(22)	11(22)	35(17.5)
	4 th	17(34)	20(40)	23(46)	21(42)	81(40.5)
	No	22(44)	20(40)	14(28)	16(32)	72(36)
	Difference					
Gender of the student preferred	Male	4(8)	8(16)	13(26)	2(4)	27(13.5)
	Female	6(12)	6(12)	8(16)	23(46)	43(21.5)
	Both	39(78)	20(40)	22(44)	23(46)	104(52)
	Don't Know	1(2)	16(32)	7(14)	2(4)	26(13)
	Difference					

DISCUSSION

The results of our study showed that most patients have a positive attitude toward involvement of medical students in their care. Similar studies done by Onatai et al. (2012) in Nigeria, Abdulghani et al.(2008) in Riyadh, Saudi Arabia & Chowdhary et al. in the UK on patients' attitudes towards medical students reported similar high acceptance rates.^[1,2,6]Also Ching et al. (2000) in United States reported similar high acceptance rates among patients attending their obstetric clinic.^[4]

Similarly, the results of Cooke et al. (1996) and Priceet al. (2008) supported the above findings.^[7,8] These results are positive and certainly good for the future of medical education. Although the majority of patients in most cases allow student participation, this depends on certain conditions (Hartz, 2000).^[9] Therefore, before generalizing these findings to the patient population we should consider certain issues like the student's age, the number of students, appearance & manner of students, training year & gender of students.

The rate of acceptance of medical students' involvement from this study is therefore comparable to the rates observed in some other parts of the world. There was no conclusive evidence why this trend exists, but the commonest reason told by the respondents (49%) in this study was that they feel it is an important learning process for future doctors.^[6]

Patients' unwillingness to allow student participation in their care in the various clinics was slightly more with the Obstetrics and Gynaecology department compared with the other 3 departments. The reason for this slight disparity in the OBGY OPD can be attributed to the desire for privacy during the examination of their genitalia as a greater number of respondents who refused students participation did so because they wanted their privacy^[6] or they felt uncomfortable with students similar to the findings of Onatai et al (2012) & (Grasby and Quinlivan, 2001). Ching et al. (2000) found out in their study that the commonest factor contributing to refusal of medical students by patients was the desire for protection of patient's privacy.^[4,6,10] In contrast to this finding, in our study feeling of discomfort with students & unfavorable experiences contributed equally to the refusal of medical students.

The age of the respondents appears to be an important factor in determining the acceptance of medical students in their care (King et al., 1992).^[11] Our study showed that the older respondents were more willing to allow medical students involved in their care and this slightly decreased as the age of the respondents decreased. The reason for this disparity is not clear, although younger respondents who refused medical students' participation did so because they felt uncomfortable when medical students were around.

Religious beliefs and predisposition may be key factors in determining how patients react to the issue of medical students' participation in health care delivery. Most Hindu respondents interviewed, indicated their unwillingness to allow medical students participation in contrast to the findings of Onatai et al (2012) in which most Muslims were unwilling to allow medical students to participate in their care.^[6] This difference may be observed due to cultural diversity of the study areas.

We observed that there was a significant relationship between respondents' education & acceptance of students in their care ($P < 0.05$). We noted a slight and gradual increase in the percentage of respondents' willingness to accept medical students' involvement in their care as their educational level decreases. This result is in contrast to the findings of Abdulghani et al. (2008) & Onatai et al (2012) in which they observed an increase in the patient's willingness to involve students in their care with an increase in their educational level.^[1,6] This may be due to respondents' unawareness about patients' rights due to their illiteracy.

CONCLUSION

Most of the patients accepted medical students in their care. Education was significantly associated with attitude of the respondents. Feeling of discomfort & unfavourable experience were most common reasons for rejection of students' involvement.

RECOMMENDATIONS

We suggest the following recommendations for better patient-student relationship & a better future of medical education in India:

1. There should be future research involving a larger sample size for a more detailed analysis of patients' views.
2. Hospitals should identify ways for conveying the importance of involving students in medical care so that educated patients will cooperate with them. E.g. Use of local community leaders, newspapers, leaflets at general practices & hospital waiting rooms.
3. Hospitals should develop ways of educating the proper communication skills to the students so that they will be accepted by patients.

LIMITATIONS

As the data were completed by the medical students, subjective bias might have occurred. Recall bias might have occurred as the patients were asked about past experiences while filling the questionnaires. As the data were collected only from four selected departments, the selected sample might not represent the entire hospital.

Ethical Consideration: Meeting dated 8th July 2021 at MGM Medical College, Aurangabad

Conflict of interest: None

REFERENCES

1. Abdulghani HM, Al-Rukban MO, Ahmad SS (2008). Patients Attitudes towards Medical students in Riyadh, Saudi Arabia. *Educ Health (Abingdon)*; 21(2): 69.
2. Choudhury TR, Moussa AA, Cushing A, Bestwick J (2006). Patients' Attitude towards the Presence of Medical Students during Consultation. *Med Teach*. 28(7); e198-203.
3. Shetty PA, Magazine R, Chogtu B (2020). Patient outlook on bedside teaching in a medical school. *J Taibah Univ Med Sci*; 16(1): 50-56.
4. Ching SL, Gates EA, Robertson PA (2000). Factors Influencing Obstetrics and Gynecologic Patients' Decisions toward Medical Students Involvement in Outpatient Setting. *Am J Obstet Gynaecol*; 182(6): 1429-1432.
5. Simons RJ, Imboden E, Martel JK (1995). Patient attitudes toward medical student participation in a general internal medicine clinic. *J Gen Intern Med*; 10(5): 251-254.
6. Onatai LO, Asuquo EO, Amadi E, Amadi-Oparelli A, Ali DU (2012). Patients' perception & attitude towards medical students' involvement in patients care at a Nigerian University Teaching Hospital. *Educ Res*; 3(9): 732-743.
7. Price R, Spencer J, Walker J (2008). Does the presence of Medical Students affect the quality in General Practice Consultation? *Med Educ*; 42(4): 374-381.
8. Cooke F, Galasko G, Ramrakha V, Richards D, Rose A, Watkins J (1996). Medical Students in General Practice; How do Patients Feel? *Br J Gen Pract*; 46(407): 361-362.
9. Hartz MB, Beal JR (2000). Patients' Attitude and Comfort Levels Regarding Medical Students' Involvement in Obstetrics-Gynecology Outpatient Clinics. *Acad Med*; 75(10): 1010-1014.
10. Grasby D, Quinlivan JA (2001). Attitudes of Patients towards the Involvement of Medical Students in their Intrapartum Care. *Aust N Z J Obstet Gynaecol*; 41(1): 91-96.
11. King D, Benbow SJ, Elizabeth J, Lye M (1992). Attitude of Elderly Patients to Medical Students. *Med Educ*; 26(5): 360-363.