

# Assessment of Knowledge and Attitude Towards Medical Ethics among Medical Students

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## Abstract

**Background:** A sense of discontent with services of medical practitioners and growing reliance on alternative medicine with increased public awareness, negative publicity leads to increased lawsuits against medical professionals. Medical ethics training provides a basis for balancing one's obligation to patient and practice, as well as responsibility to those seeking medical care. **Aims and Objectives:** To assess medical students' knowledge and attitude towards medical ethics. **Material and Method:** A cross-sectional questionnaire-based study among 246 medical undergraduates was conducted. Data was analyzed for percentage, mean and 't' test. **Results:** Majority knew importance of medical ethics in medical profession and existence of institutional ethics committee. 84.9% agreed that written informed consent should be mandatory. Response was statistically significant regarding confidentiality ( $p=0.001883$ ), utmost respect for human life ( $p=0.00542$ ) and respect for dignity and privacy of patient ( $p=0.001408$ ). 80.4% disagreed that ethical conduct is important only to avoid legal action. 82.5% agreed strongly to integrate medical ethics in medical curriculum. **Conclusion:** Though students had adequate knowledge about medical ethics, reinforcement at all levels of medical education is necessary.

**Keywords:** Medical ethics, Medical students, Knowledge, Attitude.

## Introduction

As per Medical Council of India, primary objective of medical professionals is to render services to humanity<sup>1</sup>. A sense of dissatisfaction towards medical professionals' services and increasing reliance on alternative medicine along with increased public awareness, negative publicity leads to increased litigation against healthcare professionals<sup>2-3</sup>. Medical ethics concerns the moral principles governing the application of medical knowledge while dealing with patients<sup>4-6</sup> and serves as basis for decision-making in cases of conflicts, confusion and dilemmas resulting

from biomedical technologies<sup>1-2</sup>.

Medical practitioners are expected to be competent, compassionate and knowledgeable. Current system of medical education offers only an outline of ethical problems, but doesn't educate medical students in addressing ethical dilemmas they face during clinical practice<sup>3,6</sup>. This issue can be curbed by improving medical curriculum and creating educational opportunities for potential healthcare practitioners<sup>5,7</sup>. If sensitization is done at early stage of medical education, it will help litigations against medical professionals to reduce. This will provide a basis for balancing one's duty to their patient and profession, as well as the obligation to those seeking medical care<sup>8</sup>. Under this context, the present study was undertaken to assess medical students' knowledge and attitude towards medical ethics.

## Material and Methods

A cross-sectional questionnaire-based study among medical undergraduates (in two groups) of different

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batches was conducted between April 2019 and December 2019, after obtaining permission from the Institutional Ethics Committee. Group I comprised of students studying in the 3<sup>rd</sup> semester who recently had attended medical ethics lectures and Group II of students studying in the 6<sup>th</sup> to 9<sup>th</sup> semesters and had attended medical ethics lectures in their 3<sup>rd</sup> semester. First year students were excluded from the study because they had no formal medical ethics education. The study was conducted in Forensic Medicine Department, N.K.P. Salve Institute of Medical Sciences & Research Center and Lata Mangeshkar Hospital, Nagpur. The students who were willing to participate were considered for the study. A pilot test on 25 students was undertaken. Prior to administering questionnaire, participants were addressed regarding purpose and nature of the study and were informed that data collected would be anonymous and their participation would be voluntary. After obtaining written informed consent, the questionnaires were distributed to the students. A pre-validated questionnaire was consisted of two sections for knowledge and attitude assessment. First section included questions to assess knowledge and second to assess attitude. Questions were graded on a scale from 1 to 5 according to the Likert scale (1-strongly disagree, 2-disagree, 3-not sure, 4-agree and 5-strongly agree). Scores 1 and 2 were put together to show disagreement, scores 4 and 5 were put together for agreement and score 3 showed that student was uncertain of statements' response. For comparative as well as overall analysis, a mean Likert score was calculated for each element among participants from different semesters. Data was entered in excel sheet and analyzed by using Epi-Info

7 statistical software for number, percentage, mean, standard deviation, 't' test. A p-value of <0.05 was considered to be significant.

## Results

Out of 270 students, 246 (91.1%) consented to participate in study. Regarding importance of medical ethics in medical profession, 240 (97.5%) strongly agreed. 232(94.3%) medical students had knowledge of the Hippocratic Oath and its contents and 193(78.4%) students were aware of existence of institutional ethics committee and its specific role.

Predominant source of knowledge was lectures on medical ethics followed by clinical postings (Figure 1). 208(84.9%) agreed that written informed consent should be obtained for routine investigations, general and genital examination, operations or procedures. 207(84.1%) students agreed that children should never be treated without parents' consent except in emergency. 205(83.3%) participants knew that spousal consent should be granted for sterilization, which was statistically significant ( $p=0.008851$ ). Response was statistically significant regarding confidentiality in medical practice ( $p=0.001883$ ), physician must maintain utmost respect for human life ( $p=0.00542$ ), dignity and privacy of the patient ( $p=0.001408$ ), importance to follow guidelines for intimate examination of patients even for anaesthetized or sedated patients like informed consent, maintain confidentiality ( $p=0.00289$ ) (Table 1). 197(80.1%) participants stated that patient's spouse should be informed of venereal diseases, hepatitis or HIV status or any other sexually transmitted diseases.

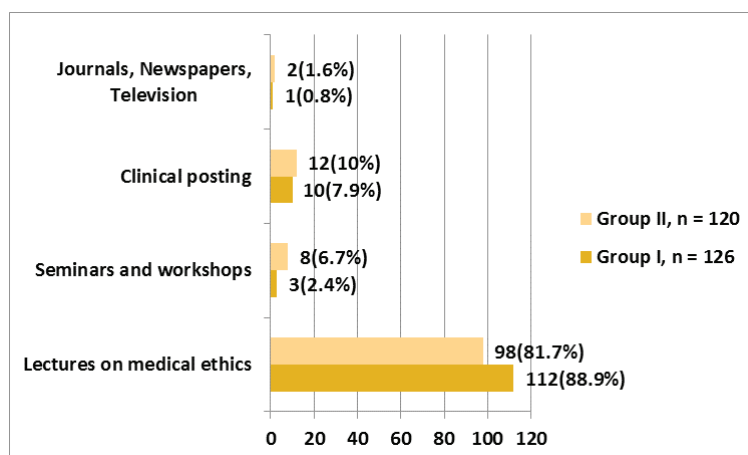


Figure 1: Source of knowledge of medical ethics among medical students

A good number of participants 198(80.4%) disagreed that ethical conduct is important only to avoid legal action. Significant responses were observed when inquired whether to discuss ethical, social and legal issues of patient during clinical rounds along with clinical aspects of a patient's care (p=0.00289). 197(80.1%) participants opined to disclose information to patients regarding their treatment and 203(82.5%) opined to involve patients in decision making of their management. They should always be told about wrong doing 205(83.3%) and close relatives must always be told about patient's condition 207(84.1%). Statistically significant response was obtained when inquired whether during treatment (in non-emergency situations), patient's wishes should be adhered to (p=0.002004) and regarding right of a patient to refuse life supporting treatment (p=0.001867) (Table 1). 209(84.9%) respondents opined that a doctor should not refuse treatment if patient is unable to bear fees. 197(80.1%) participants agreed that clinically confirmed cases should be subjected to routine laboratory investigations.

It was agreed by 200(81.3%) participants that physicians cannot print photograph, qualification and specialty on signboard. 185(75.2%) were acquainted with fact that a physician cannot run an open shop for dispensing drugs and appliances prescribed by other doctors (p=0.00451) (Table 1). 195(79.3%) students concurred that a doctor should not criticize another physician in presence of patient or health personnel and 193(78.5%) opined that doctor should prescribe brand name rather than generic name of a drug in medical practice. Maximum participants agreed strongly that doctor should do what is best irrespective of the patient's opinion (p=0.00124). About 197(80.1%) participants were of opinion that doctor should keep records of certificates issued. When questioned whether medical ethics teaching should be integrated within medical curriculum, maximum 203(82.5%) students agreed strongly.

**Table 1: Statistically significant responses regarding various issues of medical ethics**

Sr. No	Questions	Group I (n=126) Group II (n=120)	Strongly agree	Agree	Don't know	Disagree	Strongly disagree	P value
1	Consent of spouse is must for sterilization	I	60(47.6%)	40(31.7%)	15(11.9%)	6(4.7%)	5(3.9%)	0.008851
		II	50(41.7%)	55(45.8%)	10(8.3%)	3(2.5%)	2(1.7%)	
2	Physician should protect patient's confidentiality	I	60(47.6%)	45(35.7%)	10(7.9%)	5(3.9%)	60(47.6%)	0.001883
		II	52(43.3%)	50(41.7%)	12(10%)	5(4.2%)	52(43.3%)	
3	Doctor must respect patient's dignity and privacy	I	50(39.7%)	49(38.9%)	17(13.5%)	5(3.9%)	5(3.9%)	0.001408
		II	48(40%)	50(41.7%)	19(15.8%)	2(1.7%)	1(0.8%)	
4	Physician must maintain utmost respect for human life	I	55(43.6%)	44(34.9%)	15(11.9%)	8(6.3%)	4(3.2%)	0.00542
		II	55(45.8%)	49(40.8%)	12(10%)	3(2.5%)	1(0.8%)	

**Cont... Table 1: Statistically significant responses regarding various issues of medical ethics**

5	During clinical teaching, it is important to follow guidelines for intimate examinations of patients	I	56(44.4%)	45(35.7%)	16(12.6%)	5(3.9%)	4(3.2%)	0.0074
		II	55(45.8%)	50(41.7%)	12(10%)	2(1.7%)	1(0.8%)	
5	During clinical rounds along with clinical aspects of a patient's care, it is also essential to discuss ethical, social and legal issues	I	50(39.7%)	49(38.8%)	16(12.7%)	7(5.5%)	4(3.2%)	0.00289
		II	52(43.3%)	51(42.5%)	15(12.5%)	1(0.8%)	1(0.8%)	
6	During treatment, patient's wishes must always be adhered to	I	50(39.7%)	48(38.1%)	15(11.9%)	8(6.3%)	5(3.9%)	0.002004
		II	52(41.2%)	49(38.8%)	13(10.3%)	5(4.2%)	1(0.8%)	
7	Doctor should do what is best irrespective of patient's opinion	I	55(43.6%)	40(31.7%)	20(15.8%)	6(4.7%)	5(3.9%)	0.00124
		II	56(46.6%)	50(41.7%)	10(8.3%)	3(2.5%)	1(0.8%)	
8	Patient has right to refuse life supporting treatment	I	57(45.2%)	49(38.8%)	12(9.5%)	4(3.2%)	4(3.2%)	0.001867
		II	53(44.2%)	50(41.2%)	15(12.5%)	1(0.8%)	1(0.8%)	
9	A physician cannot run an open shop for dispensing drugs and appliances prescribed by other doctors	I	50(39.7%)	45(35.7%)	15(11.9%)	6(4.7%)	10(7.9%)	0.004513
		II	47(39.1%)	43(35.8%)	25(20.8%)	3(2.5%)	2(1.7%)	

## Discussion

Ethical conflicts are common during initial years of career of a medical professional that make inculcating a sound foundation in medical ethics important. In present study, response rate was 91.1%<sup>2-3, 6-7, 9-11</sup>. 97.5% participants agreed that medical ethics is very important in medical profession, which is analogous to earlier studies<sup>1-3, 6, 10-12</sup>. Maximum students were aware about the Hippocratic Oath and its contents<sup>2-3, 10</sup> and of existence and specific functions of the institutional ethics committee which is similar to prior research<sup>2-3, 6, 11, 13</sup>. However, very few students were aware of same.<sup>1, 9, 12</sup>

Lectures on medical ethics were predominant source of knowledge<sup>1-2, 6, 9-11, 14</sup>, however in studies by Suja Purushothaman et al<sup>3</sup> and Janakiram C et al<sup>7</sup>, newspaper,

internet and television and in studies by Angadi MM et al<sup>12</sup> and Mohammad M et al<sup>13</sup>, it was textbooks and journals. Previous studies<sup>1, 5, 9-10, 14</sup> suggested that written informed consent should be obtained in case of routine investigations, general and genital examination, operations or procedures, which was in agreement with our study. Maximum students agreed that children should never be treated without parents' consent except in emergency, which is comparable with preceding studies<sup>1-5, 9</sup>, however 48% agreed in study by Imran N et al<sup>15</sup>. 84.1% agreed that confidentiality is most important in ethical practice of medicine which should be protected by physician<sup>2, 6, 9-10, 14</sup>. Physician must maintain utmost respect for human life and respect dignity and privacy of patients<sup>6</sup>. Most of the participants felt that during intimate examination of the patient, certain guidelines

like informed consent, maintain confidentiality, even for anaesthetized or sedated patients should be followed which is similar to findings by Chatterjee B<sup>9</sup> and Nepal S et al<sup>14</sup>.

Earlier researchers observed that most of the participants in their studies disagreed that ethical conduct is important only to avoid legal action<sup>2, 4-5, 11-12</sup>, which was comparable with our findings, however participants were not very clear about that in a study conducted by Chatterjee B et al<sup>9</sup>. 85.4% participants were of opinion that during clinical rounds along with clinical aspects of a patient's care, it is also essential to discuss ethical, social and legal issues of that patient, which is analogous with prior studies<sup>5, 9</sup>. Most of the respondents were of opinion that doctor should disclose information to patients regarding their treatment<sup>6</sup>. In a study conducted by Jatana SK et al<sup>6</sup>, most of the participants strongly disagreed to involve patients in case of decision making of their management. Respondents in maximum number supported that the patient should always be told about wrong doing<sup>1-2, 4-5, 9-12, 14</sup> and close relatives must always be told about the patient's condition<sup>2, 9</sup>. Positive response for during treatment, patient's wishes in non-emergency situations should be adhered to was in agreement with Rajput CL et al<sup>1</sup>, Iswarya S et al<sup>5</sup>, Chatterjee B et al<sup>9</sup>, Nepal S et al<sup>14</sup>, however Suja Purushothaman et al<sup>3</sup> noted that majority participants were not aware of that. Regarding right of a patient to refuse life supporting treatment, statistically significant response was noted, however when participants in lesser number showed agreement in a study by Nepal S et al<sup>14</sup>. Students in a study by Nepal S et al<sup>14</sup> opined that a doctor should not refuse treatment if patient is unable to bear fees, which is in concordance with our study.

In present study, most students felt that clinically confirmed cases should also undergo laboratory investigations as a routine which is comparable to previous studies<sup>1-2, 5, 9</sup>. 81.3% students disagreed that it was appropriate for doctors to print photograph, qualification and specialty on the signboard. In a study by Rajput CL et al<sup>1</sup> only 21.4% students felt that a doctor may do so, in a study by Chatterjee B et al<sup>9</sup>, 52.2% participants disagreed that it was appropriate for doctors and in a study by Angadi et al<sup>12</sup> 31.6% students felt so. 75.2% were acquainted with the fact that a physician cannot run an open shop for dispensing drugs

and appliances prescribed by other doctors<sup>1, 9, 12</sup>. 79.3% students agreed that a doctor should not criticize another physician in presence of patients or health personnel<sup>6</sup>.

Also, majority of the students opined that it is better to use brand name rather than generic name for prescription to patients, which is in agreement with findings of Iswarya S et al<sup>5</sup> and Angadi MM et al<sup>12</sup>. In a study by Rajput CL et al<sup>1</sup> around 39.2% students feel that it's better to use brand name than generic name of drug whereas in the study by Chatterjee B et al<sup>9</sup>, 59.9% students said it is better to prescribe generic drug than brand name in accordance with the principle of ethical conduct. The doctor should do what is best irrespective of the patient's opinion. Similar findings were noted in previously conducted studies<sup>1, 4-5, 9-11</sup>, however in a study by Walrond ER et al<sup>2</sup>, 85.5% participants disagreed for the same. Most of the students had a knowledge that it is always necessary for physicians to keep a copy of the certificate issued by them. This is comparable with findings of Rajput CL et al<sup>1</sup>. In a study by Chatterjee B et al<sup>9</sup>, only 38.8% disagreed that it was necessary for a doctor to retain a copy of the certificate issued by him or her. Regarding integration of medical ethics in the medical curriculum, findings were comparable with earlier studies<sup>4, 6</sup>.

## **Conclusion**

For modern day medical practice, good understanding and comprehension of healthcare ethics is crucial. The present study has attempted to assess medical students' knowledge and attitude about ethical issues and their importance in medicine practice with clear needs to integrate realistic elements of ethical instruction into the curriculum of the undergraduate program.

When compared between students studying in different years exploring various issues, it indicates that there is no proportionate increase in knowledge of ethical issues along with an increase in the years of medical education; the mean score of second year students was better than that of their seniors in most of the cases. Thus though students had adequate knowledge about medical ethics, reinforcement at all levels of medical education is necessary and gives emphasis to the importance of continuing education in ethics throughout the undergraduate, internship, and postgraduate periods.

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**Source of Funding:** Self.

**Conflict of Interest:** Nil.

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