

Exploring Medical Students' Knowledge and Attitude Towards Medical Ethics: A Multicenter Study

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Abstract

Background: Medical professionals must have a firm knowledge of medical ethics in order to practice sound medicine. It is a part of our MBBS curriculum and aids in educating future physicians about medical ethics and developing a positive attitude towards them. This study aimed at assessing the knowledge and attitude of 5th year MBBS students of four government and non-government medical colleges of Chattogram towards medical ethics.

Materials and methods: A descriptive cross sectional study was done in Chattagram Maa-O-Shishu Hospital Medical College, Chittagong Medical College, BGC Trust Medical College and Marine City Medical College from August 2023 to October 2023. A total of 400 MBBS 5th year students voluntarily participated in this study. A structured questionnaire including knowledge and attitude towards medical ethics was distributed among the students. Five point Likert Scale (Strongly agree, agree, neutral, disagree and strongly disagree) was used to determine the knowledge and attitude towards medical ethics. Percentages and Frequencies were used to assess the knowledge and attitude. Data was analyzed by Statistical Package of Social Sciences version 24.

Results: In this study, out of 400 students, 152(38%) were male and 248(62%) were female. The age range of the participants was 22-29 years. The common source of knowledge on medical ethics was lectures (85%) followed by books (71%), internet (31%), seminars (24%), journals (15%) and television (12%). Approximately 377 (94.25%) of students agreed that conduct of the doctor carries utmost importance. Approximately 351 respondents (87.75%) disagreed with the notion that patient secrets can be disclosed. About 295(73.8%) answered that law of Bangladesh does not permit Euthanasia. 384 (96%) were aware that medical ethics is an integral part of their MBBS syllabus and 303(75.8%) knew that their institution has an Institutional Ethical Committee.

Conclusion: Undergraduate students in this study had a moderate to good knowledge on medical ethics.

Key words: Attitude; Knowledge; Medical ethics; Medical student.

INTRODUCTION

Medical ethics is a set of moral rules that govern the application of values and judgments in medical practice.¹ Medical Ethics is based primarily on four principles viz respect for autonomy, beneficence, non-maleficence and justice which were initially put forth by Beauchamp and Childress from America.² During ancient times, the Hippocratic oath emphasized the connection between medicine and ethics.¹ According to World Medical Association (WMA) resolution, Medical Ethics and human rights must be included and made compulsory in the curriculum of medical schools and medical education for post graduates along with continuing professional development.³ Ethical dilemmas commonly arise in various domains,

such as abortion, contraception, the care of terminally ill patients, professional misconduct, the preservation of patient confidentiality and doctor's professional interactions with the relatives of patients, religious considerations, traditional medicine, and conflicts of interest. The conventional medical curriculum provides limited assistance to students in navigating the ethical dilemmas that they are likely to confront in their roles as healthcare practitioners.⁴ It is imperative to provide future medical practitioners with comprehensive instruction in scientific knowledge, encompassing both the fundamental principles of patient interaction and the incorporation of human values in clinical decision-making processes. This would potentially enhance treatment outcomes and augment patient satisfaction.⁵ It is anticipated that every doctor engaged in medical practice should possess an understanding of medical ethics, as failure to adhere to fundamental principles of medical practice could result in legal action and litigation. The incorporation of medical ethics and professionalism into the MBBS curriculum by BMDC assists medical students in understanding the significance of being attuned to ethical matters during their routine clinical practice. It also cultivates in them the skill to adeptly handle the anxieties of patients, families, participants in health research, and the broader society, when addressing their concerns. Within the MBBS program of Bangladesh, Phase-II is overseen primarily by the Community Medicine and Forensic Medicine departments. Forensic Medicine department imparts essential topics related to medical ethics and professionalism to medical students. This subject encompasses a wide array of topics, such as the historical progression of medical ethics.⁶ Neighboring South Asian countries also incorporated medical ethics into the undergraduate medical curriculum.^{7,8} The focus of ethical debates in the industrialized world is on "Micro ethics" like euthanasia and cloning, whereas underdeveloped nations are lagging behind in addressing the fundamental issues of ethical practice in their profession. But our culture is not exempt from ethical problems of any kind. Human dignity, health and wellbeing must be safeguarded rather than jeopardized by science and technology. Including bioethics in medical education helps to ensure the proper application of science and technology in this area.^{9,10}

The knowledge and attitude of medical ethics among medical students of our institution has not been researched previously. So, this study aims to analyze the knowledge and attitudes among medical students in order to guide their future professional behavior in dealing with their patients as well as to avoid legal litigations for a healthy practice of medicine.

MATERIALS AND METHODS

This cross sectional study was carried out in Chattagram Maa-O-Shishu Hospital Medical College, B.G.C. Trust Medical College, Chittagong Medical College and Marine City Medical College from August 2023 to October 2023. Data was collected from 5th year students by using a structured pretested questionnaire (Research Instrument) containing all the variables

of interest after taking consent from them. A sample comprising fifth-year medical students has been selected for the study, as the curriculum for first and second-year students does not include the teaching of medical ethics. Third-year students have been exposed to the principles of medical ethics within the context of their Forensic Medicine course. Fourth-year students, having recently completed their Forensic medicine, possess a fresh and comprehensive understanding of medical ethics. So considering students of 1st year to 4th year as a sample could furnish a biased result. Given that fifth-year students are currently engaged in patients care, possess advanced clinical, theoretical, and practical knowledge, and are on the verge of completing their MBBS degree. Their knowledge and attitudes toward medical ethics constitute a vital point for this research. Those who gave consent were included under the study and those who refused to give consent were excluded from the study. The ethical clearance of the study was taken from the above institutions. A total of 400 students answered the questionnaire.

The questionnaire was divided in five sections. The first part of the questionnaire included informed consent that described the study in brief and further asked if the participants agreed to give consent regarding participation in the study. Thus, consent was obtained from the survey participants. The second section was about the socio-demographic details such as age and gender. This was followed by the third section on knowledge that included twelve (12) questions. In this section, the study participants were instructed to mark their responses for the statements on knowledge about medical ethics on a five point Likert scale (Strongly agree, agree, neutral, disagree and strongly disagree). The fourth section included a miscellaneous knowledge on medical ethics that consisted three (03) questions which had to be answered in "yes, no or I don't know". The fifth section consisted of six (06) questions on attitude towards medical ethics which was marked by a five point Likert scale (Strongly agree, agree, neutral, disagree and strongly disagree).

The percentage of students who submitted correct responses on each question on knowledge were computed using an arbitrary benchmark of 70%. Students who achieved a percentile score exceeding 70% demonstrated a good knowledge in the domain of medical ethics. Those who obtained scores within the range of 50% to 70% can be categorized as possessing a moderate level of knowledge, while individuals who received a score below 50% exhibited a poor understanding of medical ethics.

The percentage of students who submitted correct responses on each question on attitude was also computed using an arbitrary benchmark of 70%. Students who achieved a percentile score exceeding 70% demonstrated a positive attitude. Those who obtained scores within the range of 50% to 70% were categorized as fence sitter, while individuals who received a score below 50% exhibited a negative attitude towards medical ethics. Data were analyzed using computer based Statistical Package for Social Science (SPSS) 24 version. Percentages and mean were calculated.

RESULTS

Out of the total 400 students, all of them completed the questionnaire. The age of the participants in this study were in the range of 22 to 29 years. Mean of the age was 23.60 years with a Standard Deviation (SD) of 0.833 years. Male study participants were 152 (38%) and the remaining 248 (62%) were female students.

On questions regarding knowledge of the participants, all (100%) of the participants were aware of medical ethics. The study participants were asked regarding their source of knowledge on medical ethics which is displayed graphically in the form of a bar chart (Figure 1). Lectures (85%) and books (71%) were the chief sources of their knowledge on medical ethics followed by internet (31%), seminars (24%), journals (15%) and television (12%).

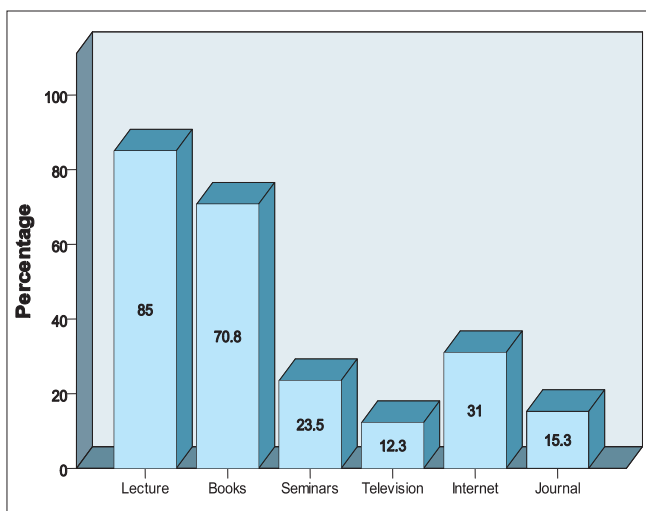


Figure 1 Sources of Knowledge on Medical Ethics

Based on knowledge regarding medical ethics presented in Table I, Approximately 377(94.25%) of participants agreed on the statement that conduct of the doctor carries utmost importance. Around 351 (87.75%) of the respondents disagreed upon the statement that secrets of the patients can be disclosed. 336 (84%) disagreed that the consent is needed only for operation. 205 (51.25%) disagreed that ethical conduct is required only to avoid legal consequences. 337 (84.25%) of respondents agreed that children should be treated with parent's consent except in emergency. 263(65.75%) agreed that lab investigation is a routine procedure. 131 (32.75%) disagreed that if law permits abortion, doctor must never refuse to abort. 235 (58.75%) agreed that if patient is non cooperative, doctor can refuse to treat. 190 (47.5%) participants disagreed that doctor must do what is best irrespective of patient's opinion. 372 (93%) of respondents agreed that in ward doctor must discuss about ethical aspects of patients to students. 117

(29.3%) agreed that privacy of patients must be ignored in benefit of larger group. 214(53.5%) disagreed that brand name should be preferred over generic name of a drug.

Certain other aspects of knowledge regarding medical ethics were assessed in the form of three questions where they had to answer as yes, no or I don't know. The students were queried about knowledge on Euthanasia as a part of medical ethics. About 295 (73.8%) answered that Law of Bangladesh does not permit Euthanasia. Approximately 384 (96%) were aware that teaching medical ethics is a part of their MBBS syllabus and 303 (75.8%) accepted that their institution has an institutional ethics. The details are presented below in (Table II).

The participants were presented with a set of 15 questions pertaining to their knowledge on medical ethics. In this study, it was found that in 8 questions, > 70% of the participants provided responses that were acceptable, suggesting a high level of knowledge among the respondents. In 3 questions, it was found that, 50% to 70% of participants offered responses that were considered acceptable. This suggests that the participants possessed a moderate level of knowledge on medical ethics. In 4 questions, less than 50% of the participants submitted response that were acceptable, suggesting a poor level of knowledge shown in (Figure 2). A 5 points Likert scale was used to assess the attitude towards medical ethics shown in (Table III). Among 400 participants 343(85.8%) agreed that patient should be informed of any wrong doing during his treatment. 291(72.75%) agreed that patients wishes should always be adhered to. About 184(46%) disagreed that doctor should do what is best irrespective of patients opinion. 140(60%) disagreed on doctor should charge more from rich than the poor. 146(36.5%) disagreed that close relatives must be always told about their patients condition. Approximately 280(70%) of students disagreed that confidentiality of patient can't be maintained in modern care.

Six questions were given on one's attitude towards medical ethics. More than 70% of responders to 3 questions gave an appropriate response, demonstrating a positive attitude towards medical ethics. Only 60% of respondents gave an accepted response in 1 question, showing that they were fence sitters, and less than 50% of participants gave an accepted response in 2 questions, suggesting that they had a negative attitude towards medical ethics shown in (Figure 3).

Table I Knowledge of students on Medical Ethics

	Knowledge statement	Strongly agree (SA) (%)	Agree (A) (%)	Neutral (N) (%)	Disagree (D) (%)	Strongly disagree (SD) (%)	Accepted response
K1	Conduct of a doctor carries utmost importance	311 (77.8)	66 (16.5)	9 (2.3)	0 (0)	14 (3.5)	SA/A
K2	Secrets of patient can be disclosed	19 (4.8)	8 (2)	22 (5.5)	131 (32.8)	220 (55)	D/SD
K3	Consent is needed only for operation	25 (6.3)	19 (4.8)	20 (5)	231 (57.8)	105 (26.3)	D/SD
K4	Ethical conduct is required only to avoid legal consequences	55 (13.8)	95 (23.8)	45 (11.3)	173 (43.3)	32 (8.0)	D/SD
K5	Children should be treated with parents consent except in emergency	108 (27)	229 (57.3)	31 (7.8)	27 (6.8)	5 (1.3)	SA/A
K6	Lab investigation is a routine procedure	56 (14)	207 (51.8)	62 (15.5)	52 (13)	23 (5.8)	D/SD
K7	If law permits abortion doctor must never refuse to abort	42 (10.5)	164 (41)	63 (15.8)	88 (22)	43 (10.8)	D/SD
K8	If patient is non cooperative doctor can refuse to treat	63 (15.8)	172 (43)	53 (13.3)	94 (23.5)	18 (4.5)	SA/A
K9	Doctor must do what is best irrespective of patients opinion	42 (10.5)	99 (24.8)	69 (17.3)	170 (42.5)	20 (5.0)	D/SD
K10	In ward doctor must discuss about ethical issues of patients to students	187 (46.8)	185 (46.3)	20 (5.0)	4 (1.0)	4 (1.0)	SA/A
K11	Privacy of patient must be ignored in benefit of larger group	36 (9.0)	81 (20.3)	39 (9.8)	133 (33.3)	111 (27.8)	D/SD
K12	Brand name should be preferred over generic of a drug	19 (4.8)	73 (18.3)	94 (23.5)	127 (31.8)	87 (21.8)	D/SD

Table II Miscellaneous Knowledge of Medical Ethics

Knowledge questions	Yes n (%)	No n (%)	I don't know n (%)	Accepted Response
K13 Does law of Bangladesh permit euthanasia?	39 (9.8)	295 (73.8)	66 (16.5)	No
K14 Medical ethics is a part of a MBBS Curriculum	384 (96)	7 (1.8)	9 (2.3)	Yes
K15 Does this institution have an institutional ethics?	303 (75.8)	32 (8.0)	64 (16.0)	Yes

Table III Attitude on Medical Ethics

Attitude questions	Strongly agree (SA) n (%)	Agree (A) n (%)	Neutral (N) n (%)	Disagree (D) n (%)	Strongly disagree (SD) n (%)	Positive response
A1 Patient should be informed of any wrong during his treatment	167 (41.8)	176 (44)	23 (5.8)	23 (5.8)	11 (2.8)	SA/A
A2 Patients wishes should always be adhered to	96 (24.0)	195 (48.8)	77 (19.3)	28 (7.0)	4 (1.0)	SA/A
A3 Doctor should do what is best irrespective of patients opinion	47 (11.8)	89 (22.3)	80 (20)	154 (38.5)	30 (7.5)	D/SD
A4 Doctor should charge more from rich than poor	35 (8.8)	73 (18.3)	52 (13)	165 (41.3)	75 (18.8)	D/SD
A5 Close relatives must be always told about patients condition	41 (10.3)	137 (34.3)	76 (19)	108 (27)	38 (9.5)	D/SD
A6 Confidentiality/ Professional Secrecy can't be maintained in modern care	12 (3.0)	24 (6.0)	84 (21)	200 (50)	80 (20)	D/SD

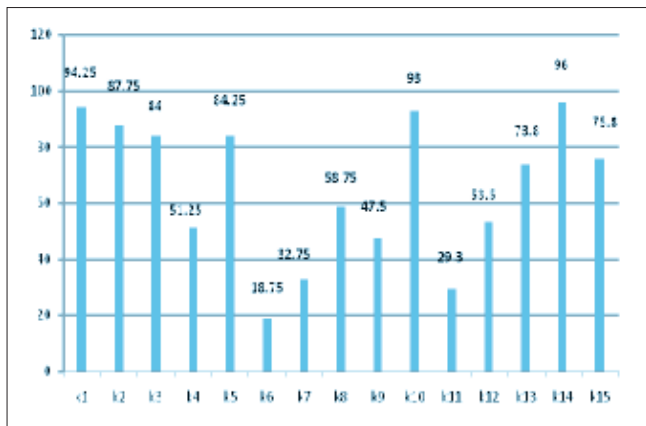


Figure 2 Percentage of accepted Knowledge of students on Medical Ethics

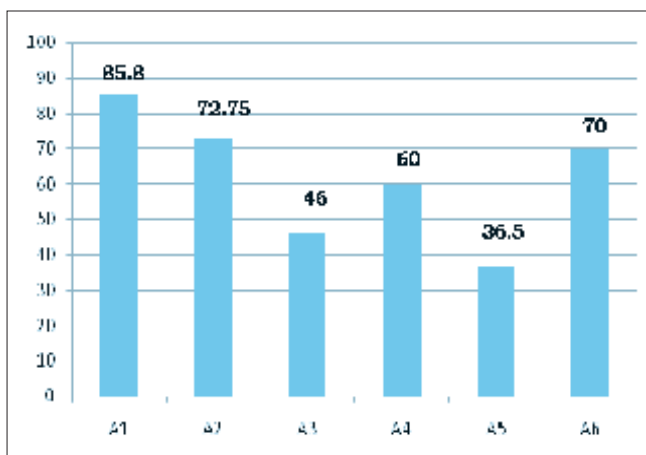


Figure 3 Percentage of positive Attitude of students towards Medical Ethics

DISCUSSION

The inclusion of ethics in medical education is commonly recognized as a crucial element that seeks to enhance professionalism.¹¹ This present study was aimed to assess the knowledge and attitude of undergraduate medical students on medical ethics. All students (100%) were aware of medical ethics. This may be attributed to the fact that the research was carried out among the graduating MBBS students who had already received instruction on the subject matter, both through their previous year's curriculum and their clinical placements.

This observation signifies the presence of a certain level of consciousness among aspiring medical professionals regarding ethical considerations, potentially influencing their interactions with patients. Regarding the source of learning medical ethics, the most common source was lecture (85%), followed by books (71%) and internet (31%). Similar outcomes were observed by Chatterjee and Sarkar at West Bengal in India and by Acharya and Shakya at Kathmandu in Nepal which were conducted among medical students and interns respectively.^{12,13}

In the present study, majority of the participants (94.25%) agreed concerning the statement that conduct of doctor is of

utmost importance. This is similar with the observation in another study done among practicing doctors where 91.2 % respondents expressed that medical ethics is important in clinical practice.¹⁴

In the present study, majority of the undergraduates (87.75%) had the correct knowledge that secrets of the patients should not be disclosed which is higher than other study done among medical undergraduate in Saudi Arabia (42%).¹⁵ Other studies in Ethiopia (59.8%), Spain (68%) and Tehran (65%) also showed lower rate of knowledge among health care Professionals regarding patient's confidentiality.^{16,17,18} In certain instances, the preservation of secrecy may not be feasible, leading to what is known as privileged communication. This refers to situations where a patient's personal information can be disclosed to the concerned authority or their family in order to promote the patient's well-being and ensure the best possible outcome for the patients and due to his duty to protect the interest of the community or state. This factor could potentially explain why participants in previous studies expressed agreement on the possibility of breaching confidentiality. Almost 80% of participants in a study conducted in Nagpur, India by Ukey U.U et al, disagreed that patients secrets can be disclosed.¹⁹

The present study showed that 84% disagreed that consent is needed only for operation. This finding is similar to that of study done by Bagga E and Leung E.²⁰

In this study, 51.25% disagreed that ethical conduct is required only to avoid legal consequences. Study by Iswarya S and Bhuvaneshwari S, conveyed that 50% of participants disagreed on the matter concerning need of ethical conduct only to avoid legal actions.²¹

84.25% agreed that children should be treated with parents consent except in emergency. In a study held in West Indies, ER Walrond observed that 72.5% of participants strongly agreed to the fact that children should be treated with parents consent except in emergency.²²

65.75% participants agreed that lab investigation is a routine procedure even if case is confirmed clinically which is similar to a study by Angadi MM in India.²³ Less than 70% participants, in the present study acknowledged the routine nature of laboratory investigations, indicating a moderate level of awareness on this ethical matter. It is imperative to prioritize laboratory investigations, such as before undertaking any surgical treatment.

32.8% participants disagreed that if law permits abortion, doctor must never refuse to abort. Disagreement to this question is an acceptable response but <50% responded to it. Here knowledge regarding this ethical issue is poor among the participants. In accordance with legal provisions, physicians possess the prerogative to decline participation in abortion procedures under specific circumstances, such as when motivated by religious convictions or while possessing solely an MBBS degree and functioning as a general practitioner. For performing a Medical Termination of Pregnancy (MTP) or

Justifiable Abortion a doctor must have a post graduation degree with an experience of assisting at least 25 cases of Medical Termination of Pregnancy.

29.3% that is <50% agreed that privacy of patient must be ignored in benefit of larger group in the present study which revealed poor knowledge regarding this ethical issue, while 48.2% of the participants agreed to the same ethical aspect in a study in India.¹⁹ 53.5% of undergraduates disagreed that Brand name is preferred over Generic name, which is similar to the study done in India, where 57% primary care physicians accepted that Generic name is preferable.²⁴ Most of the participants (73.8%) had an acceptable response that Law of Bangladesh does not permit Euthanasia. Bangladesh, being a predominantly Muslim country, upholds a legal framework that firmly adheres to the concept that acts of mercy killing cannot be absolved via remorse or tribulation. The divergence in perspectives may be attributed to geographical and socioeconomic disparities. In affluent countries such as Canada, there is a notable lack of inclination among physicians to engage in physician-assisted suicide within the context of palliative care, despite the legal permissibility of such actions.^{25,26,27} 75.8% of medical students were aware that their institution had an Institutional Ethical Committee (IEC).

On question regarding attitude towards medical ethics, 85.8% agreed that patient should be informed about any wrong during his treatment, 72.75% agreed that patients wishes should always be adhered to, and 70% respondent disagreed that confidentiality can't be maintained in modern care. When the participants were asked the aforementioned three questions on their attitudes towards medical ethics, they submitted responses that were deemed acceptable. The present findings showed a resemblance to the ethical attitudes uncovered in a study conducted in South India.²⁸

When posed with the following three questions, it was found that 46% of respondents expressed disagreement with the notion that doctors should prioritize what they believe is best for patients, regardless of the patients' opinions. Additionally, 60% of participants disagreed with the idea that doctors should charge higher fees to richer individuals compared to those who are less financially privileged. Furthermore, 36.5% of respondents disagreed with the proposition that doctors should always keep close relative informed about a patient's medical status. In these instances, it was observed that the proportion of acceptable responses was below 70%, indicating a non-accepted attitude towards medical ethics.

In about half of the questions on knowledge on medical ethics, medical students demonstrated a high degree of understanding. In half of the inquiries on their attitudes towards medical ethics, they had a positive attitude. This suggests that medical students ought to learn more about medical ethics in order to

practice medicine more effectively in the future, which could help to avoid doctor- patient conflicts in the long run. The findings of this study highlights the significance of ongoing instruction in medical ethics during the undergraduate, internship, and postgraduate years. To train the next generation of medical professionals for morally upright practice, the Bangladesh Medical and Dental Council, the Public Health Association of Bangladesh, and the Bangladesh Medical Association should include comprehensive guidelines on medical ethics in their journals and curricula.

LIMITATIONS

Due to the fact that only 5th year students were included in this survey, the results may not accurately reflect the situation nationally among undergraduates. There were no intended comparisons between the groups, and no inferential statistical tests were applied. As this was a cross sectional study, we were unable to track changes over time or draw conclusions about causality.

CONCLUSION

Medical practitioners have always been the target of the community and have faced a lot of criticism for how they interact with patients and follow ethical procedures. Medical students need to be better knowledgeable about medical ethics, according to this study's conclusions. More knowledge about professional secrecy, consent, abortion, and euthanasia is necessary. The BMDC can make it obligatory to revise medical ethics during the fifth year and internship period so a breach in knowledge will be avoided. Students' attitudes will improve once they have a solid knowledge on medical ethics. The findings of this study are anticipated to help faculties improve the standard of instruction and learning while also providing professional conduct guidelines.

RECOMMENDATION

This study addresses a critical aspect of medical education that has broad societal implications. It is vital to invest in initiatives that can lead to more ethically aware and responsible healthcare professionals, and this study is a commendable step in that direction.

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DISCLOSURE

All the authors declared no competing interest.

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