

Original article

Knowledge, Perception, and attitude towards medical ethics among undergraduate medical students at Jouf University, Saudi Arabia

Mahrous A Ibrahim¹, Khaled B Almadi², Bander D Alsharari³, Fares H Alsharari⁴, Enas M A Mostafa⁵

Abstract:

Objectives: This study aimed to assess knowledge, perception, and attitude towards medical ethics among undergraduate medical students at College of Medicine, Jouf University (COM-JU), Kingdom of Saudi Arabia (KSA). **Material and Methods:** A cross-sectional study was conducted on a convenience sample of 118 undergraduate medical students at Jouf University, KSA using a self-administered questionnaire that included section I (Basic demographic characteristics), section II (Knowledge about medical ethics), and section III (Perception and attitudes towards different aspects of medical ethics). Descriptive analysis was carried out. **Results:** More than two-thirds of the participating students were knowledgeable about different aspects of medical ethics. Despite that, about half of them did not consider confidentiality as a fundamental issue in medical ethics, and more than half accepted that a physician could ignore a patient's privacy. About 78.2 % believed that health practitioners must comply with the ethics of their profession. Nearly 75.5 % of respondents believed that a specialized Committee should be present in the college to set ethical rules. Interestingly, 71.7 % declared that there is a necessity of incorporating medical ethics into an undergraduate curriculum. **Conclusion:** Our results emphasize the need for increasing the incorporation of medical ethics issues into the undergraduate medical curriculum to enhance their knowledge and strengthen their positive attitude towards medical ethics.

Keywords: Medical ethics; Students; Knowledge; Attitude; Kingdom of Saudi Arabia

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Introduction:

Medical ethics is a set of moral rules that govern the application of values and judgments in medical practice.¹ Ethical principles assist in determining what is regarded as right or wrong in a specific time and society, based on the perceived moral repercussions of the conduct.² During ancient times, the Hippocratic oath emphasized the connection between medicine and ethics.¹

The public is becoming more conscious of medical practitioners' ethical behavior, and complaints against doctors appear to be on the rise. Violations of the four essential medical ethics concepts of autonomy, beneficence, nonmaleficence, and fairness are the most commonly asserted transgressions in medical practice. Healthcare practitioners are expected to understand such ethical principles after finishing their studies.^{2,3} Healthcare providers will have to rely on ethical values and principles that will shape their

1. Mahrous A Ibrahim, Forensic Medicine and Clinical Toxicology, College of Medicine, Jouf University, Sakaka 72349, Saudi Arabia and ² Forensic Medicine and Clinical Toxicology, Faculty of Medicine, Suez Canal University; Ismailia 41522, Egypt.
2. Khaled B Almadi, College of Medicine, Jouf University, Sakaka 72349, Saudi Arabia.
3. Bander D Alsharari, College of Medicine, Jouf University, Sakaka 72349, Saudi Arabia.
4. Fares H Alsharari, College of Medicine, Jouf University, Sakaka 72349, Saudi Arabia.
5. Enas M A Mostafa, Forensic Medicine and Clinical Toxicology, Faculty of Medicine, Suez Canal University; Ismailia 41522, Egypt.

Correspondence: Mahrous Abdelbasset Ibrahim, Forensic Medicine and Clinical Toxicology Department, Faculty of Medicine, Suez Canal University (SCU), Ismailia, Egypt. College of Medicine, Jouf University, Aljouf, KSA. Email: mahrous.ibrahim@med.suez.edu.eg, mahrous_11@yahoo.com

professional judgment, attitudes, and actions in order to successfully cope with the ethical dilemmas they face.⁴

Given the increasing attention paid to patient safety and medical errors, it is critical to emphasize the relevance of medical ethics as a vital component of undergraduate education.⁵ This can be linked to a variety of factors, including morally and ethically demanding breakthroughs in science and technology, substantial socio-cultural and ideological shifts, and heightened public awareness and demand for ethical healthcare.⁶ Furthermore, during the undergraduate study, faculty could carry considerable mentor-mentee roles and meet their mentees' needs.⁷ It is mandatory for medical students to undergo ethical and/or bioethical education while they are in medical college.⁸ It is a great way to prepare them for ethical challenges they may face in the future.⁹

Medical students encounter ethical dilemmas from the very beginning of their medical studies.¹⁰ Future physicians must be taught scientific information within the framework of the ethical foundation of their interaction with patients, as well as how human values are embedded in clinical decision-making. This would contribute to better treatment results and increased patient satisfaction.¹¹ To be a physician, one must be able and ready to behave in conformity with generally recognized moral standards and values.¹² The ethical issues that medical students anticipate they will face while working in these environments, as well as their attitudes and opinions on the subject of medical ethics' aims, learning, and evaluation techniques, remain obscure.¹³ The 2020 research by Al-Shehri, Siddiqui, and Khalil stated that residents' understanding, attitude, and practice of medical ethics are lacking, highlighting the necessity of improving Saudi Arabia's medical ethics curriculum.¹¹

Undergraduate medical students at Jouf University, KSA are exposed to a short course of medical ethics as a part of their undergraduate medical curriculum in their clinical clerkship in the 5th year (2nd semester) in collaboration with Islamic medical jurisprudence. Determining the level of basic knowledge and attitudes of undergraduates in the region is the first step in developing an advanced ethics curriculum. As a result, the purpose of this study is to analyze medical ethics knowledge, perception, and attitudes among undergraduate medical students at Jouf University, KSA in order to aid in the construction of well-developed curricula and to guide their professional behavior.

Materials and Methods:

A cross-sectional study was conducted among medical students, Jouf University, KSA. An anonymous self-administered questionnaire was used. The questionnaire was developed guided by previous literature and the help of experts in the Community Medicine department, COM-JU.^{3,14,15}

Participants were recruited as a convenience sample of 188 undergraduate medical students (with a response rate 70.6%) at Jouf University, KSA during the academic year 2019/2020, from the first to the fifth-medical class. The questionnaire was conveyed online to all participating students through google form which was communicated to the students on their personal electronic devices. Informed consent was obtained from all participants before their participation. The purpose of the study and the nature of the information that has to be collected from students were explained in a detailed information sheet at the beginning of the online questionnaire. Students who refused to participate were excluded from the study.

For questionnaire validation, a pilot testing of the questionnaire was performed before starting the study on 30 undergraduate medical students (15 male and 15 female). These students were excluded from the main study. Modifications were made for a better understanding of the questionnaire. To assess the content validity, we distributed the questionnaire to some experts with knowledge and expertise in medical ethics. Regarding reliability, the overall Cronbach alpha was 0.934, which indicates a high level of internal consistency for our questionnaire with this specific sample.

The questionnaire includes three sections. Section I includes basic demographic characteristics, age, gender, academic year, marital status, and prior studying of medical ethics. Section II includes knowledge about medical ethics regarding medical ethics principles and guidelines, characteristics of the field of medical ethics, physician-patient relationship, confidentiality and privacy, and informed consent. These were assessed using true/false choices. Section III includes perceptions and attitudes towards different aspects of medical ethics (Health practitioners' ethical medical practice, Medical Ethics Committee, studying medical ethics). These were assessed using a 5-point Likert scale (1-strongly agree, 2-agree, 3-neutral, 4-disagree, and 5-strongly disagree).

Statistical analysis:

The data were coded and analyzed. Data from the questionnaire were analyzed using IBM SPSS version 26. Descriptive statistics were applied in the form of frequencies and percentages. Concerning the “perceptions and attitudes” section, we merged “strongly agree” and “agree” to “agree” and “strongly disagree”, and “disagree”, to “disagree”.

Ethical clearance: The ethical approval was obtained from Local committee of bioethics (LCBE) at Jouf university in Sakaka, KSA (approval number: #17-03-41).

Results:

The researchers surveyed 188 undergraduate medical students who agreed to participate in the study giving a response rate 70.6%. Mean age of studied participants was 21.54±1.56. About 60.6 % were males, approximately 98% were single. Approximately, 39% had prior study of medical ethics (Table-1).

Table-1: Basic demographic characteristics of study participants

Basic demographic characteristics		No.	%
Gender			
	Male	114	60.6
	Female	74	39.4
Academic year			
	First	32	17.0
	Second	35	18.6
	Third	55	29.3
	Fourth	35	18.6
	Fifth	31	16.5
Marital Status			
	Single	184	97.9
	Married	4	2.1
Prior studying of medical ethics			
	Yes	73	38.8
	No	115	61.2
Mean age in years	21.54±1.56		

Table-2 shows the knowledge of the participating students about medical ethics. About 71.8% were knowledgeable about the existence of basic principles and guidelines that govern medical ethics. About 69.1 % knew about the medical ethics principles that guide handling emergency situations. The majority of them (78.7%) stated that there is

an ethical framework that guides the duties and responsibilities of physicians towards patients. About 74.5% demonstrated the existence of an ethical framework that guides the duties and responsibilities of physicians towards community. Approximately, 72% stated that technological advances resulted in the emerge of new ethical challenges. About 67% were knowledgeable about the continuous change of the field of medical ethics throughout history and the culture-sensitive criteria of medical ethics. Regarding physician-patient relationship, 71.3 % were knowledgeable that the physician-patient relationship requires truth-telling of wrongdoing, and 68 % demonstrated that ethical principles ensure that patient’s decision is uninfluenced. Concerning confidentiality and privacy, 42 % were knowledgeable that a physician can’t ignore a patient’s privacy, and half of the participants knew that confidentiality is a fundamental issue in medical ethics. About 52.1% considered the statement “Consent is not required for treatment” a false one. About 75% stated that it is true that children should never be treated without the consent of their parents/guardians except in an emergency.

Table-2: Knowledge of the participating undergraduate medical students about medical ethics

Statement	True %	False %
Medical ethics principles and guidelines		
There are basic principles and guidelines that govern medical ethics	71.8	28.2
There are medical ethics principles that guide handling emergency situations	69.1	30.9
There is an ethical framework that guides the duties and responsibilities of physicians towards patients	78.7	21.3
There is an ethical framework that guides the duties and responsibilities of physicians towards community	74.5	25.5
Characteristics of the field of medical ethics		
Technological advances resulted in the emerge of new ethical challenges	72.3	27.7
The field of medical ethics continues to change throughout history	67.0	33.0
Medical ethics values are culture sensitive	67.0	33.0
Physician-patient relationship		

Statement	True %	False %
Physician-patient relationship requires truth-telling of wrongdoing	71.3	28.7
Ethical principles ensure that patient's decision is uninfluenced	68.1	31.9
Confidentiality and privacy		
A physician can ignore the patient privacy	58.0	42.0
Confidentiality is a fundamental issue in medical ethics	50.0	50.0
Informed consent		
Consent is not required for treatment	47.9	52.1
Children should never be treated without the consent of their parents/guardians except in an emergency	75.0	25.0

Table-3 shows the perceptions and attitudes of the participants towards different aspects of medical ethics. About 78.2 % believed that health practitioners must comply with the ethics of their profession. The majority of them(79.8 %) denoted that adhering to the ethical principles by health practitioners has a positive effect on patients. Approximately, 78% believed that dealing with colleagues ethically has a positive effect. Surprisingly, 53.2 % agreed that health practitioner might sometimes behave unethically, 57.5 % believed that doctors know best, regardless of patient's opinion, 47.3 % considered that ethical behavior is important only to avoid legal action, 50.5 % declared that if the law allows abortion, doctors must not refuse to do abortion, and 58 % thought that clinically confirmed cases should also undergo laboratory investigations as a routine. Regarding Medical Ethics Committee establishment, 75.5 % of respondents believed that a specialized Committee should be present in the college to set ethical rules. Concerning their attitude towards studying medical ethics, 75 % believed that it is necessary for a physician to take intensive medical ethics courses on a frequent basis. Furthermore, 77.6 % declared that there is a necessity of incorporating medical ethics in undergraduate curriculum. About 66.4 % believed that studying medical ethics contributes to effective handling of ethical challenges faced by physicians, and 68.6 % perceived studying medical ethics as a help to know the patient's rights.

Table-3: Perception and attitude of the participating undergraduate medical students towards different aspects of medical ethics

Statement	Agree %	Neutral %	Disagree %
Health practitioners' ethical medical practice			
The health practitioner must comply with the ethics of his profession	78.2	13.8	8
Adhering to the ethical principles by health practitioners has a positive effect on patients	79.8	13.2	7
Dealing with colleagues ethically has a positive effect	78.2	13.8	8
A health practitioner might sometimes behave unethically	53.2	18.6	28.2
Doctors know best irrespective of patients' opinion	57.5	18.5	24
Ethical conduct is important only for avoiding legal action	47.3	22.9	29.8
If the law allows abortion, doctors must not refuse to do abortion	50.5	26.6	22.9
Clinically confirmed cases should also undergo laboratory investigations as a routine.	58	26	16
Medical Ethics Committee			
A specialized Committee should be present in my college to set the ethical rules	75.5	14.4	10.1
Studying medical ethics			
It is necessary for a physician to have intensive courses about medical ethics from time to time	75	11.7	13.3
There is a necessity of incorporating medical ethics in undergraduate curriculum	77.6	13.3	9.1
Studying medical ethics contributes to effective handling of ethical challenges faced by physicians	66.4	24.5	9.1
Studying medical ethics helps me to know the patient's rights	68.6	18.6	12.8

Discussion:

Teaching ethics is often regarded as a critical component of medical education aimed at improving professionalism.⁶ Incorporating an advanced and well-developed medical ethics curriculum into the undergraduate curriculum necessitates assessing the current basic knowledge, perception, and attitudes towards medical ethics among undergraduate medical students at Jouf University, KSA.

As regards the knowledge of the participating students about medical ethics, the gap in knowledge regarding certain aspects of medical ethics suggests that the students are judging these issues without applying the basic ethical principles. These results agree with several previous studies as Majeed et al. 2020 where their results showed a fundamental lack of understanding of certain basic medical ethics aspects.¹⁵ According to Iswarya and Bhuvaneshwari 2018 findings, students were knowledgeable as our studied students about different aspects of medical ethics as ensuring that patient's decision is uninfluenced; the requirement of truth-telling about wrong doing in the physician-patient relationship; and the informed consent in case of children. On the other hand, their students showed more knowledge regarding privacy, and confidentiality.³ The results of our study disagree with Mohamed, Ghanem, and Kassem 2012 study. Their studied participants showed higher knowledge level about medical ethics. Despite that, only 18% had learned what they knew throughout their medical school study years.¹⁴ Their higher knowledge level could be related to the experience the residents have faced during their clinical practice that enhanced their knowledge about medical ethics.

To practice "good medicine," doctors require more than simply strong knowledge and abilities; they also need the proper attitude, behavior, and the capacity to make tough ethical judgments concerning the treatment of their patients.¹⁶

Concerning the perceptions and attitudes of the participating students, most of them believed positively regarding the importance of adherence to ethical principles and its positive consequences as well as a positive attitude towards Medical Ethics Committee establishment. These positive attitudes are promising and need to be strengthened. These results were in accordance with Jatana et al. 2018 study where majority of students showed good attitudes towards the fundamental principles that guide doctors, and the obligations of physicians towards patients.¹⁷

Surprisingly, more than half of the participants in this study thought that health practitioners might sometimes behave unethically and that doctors could violate patients' autonomy. This result contradicts their knowledge that ethical principles ensure that patient's decision is uninfluenced. The negative attitudes of about half of the participants regarding considering ethical behavior only to

avoid legal action, not refusing to do abortion, and doing laboratory investigations as a routine even in clinically confirmed cases raised a lot of concern and reflects the need for inculcating ethical values and principles among medical students.

The results of our study concerning the attitude towards medical ethics agree to some extent with some of the results of Mohamed, Ghanem, and Kassem 2012 study. Around 60.2% of their studied physician residents had a good perception regarding ethical aspects. On the other hand, the majority of their participants showed positive attitudes as they disagreed with negative statements regarding the doctor-patient relationship, including: avoiding legal action (95.3%), unable to implement it in current treatment (90.6 %).¹⁴ Iswarya S. and Bhuvaneshwari S. 2018 study showed some negative attitudes towards certain ethical issues as in our study but with different percentages. Around 65% of their students believed that doctors must do what is best for patients regardless of their opinion. Nearly 30.3 % thought that ethical conduct is only vital to avoid legal action. About 67.6 % agreed to perform abortion. Nearly 65% said that all clinically diagnosed case should be subjected to routine laboratory investigation.³ Furthermore, Althobaiti et al. 2021 survey showed that 54.5% believed that healthcare practitioners know best no matter what their patients think, and 40.6% believed that confidentiality can no longer be preserved as medicine advances.¹⁸ On the other hand, our results disagree with those of Shajil, Channabasappa, and Dekal 2021 survey in which 97.2 percent said that a doctor must preserve patient confidentiality. However, they showed a deficiency in understanding other basic issues of medical ethics.¹⁹

According to Subramanian, Mathai, and Kumar 2013 study's conclusions, doctors need greater training in the healthcare ethics.²⁰ The unsatisfactory knowledge, perception, and attitude towards certain aspects of medical ethics among the studied students could be attributed to the deficiency in prior studying of medical ethics as only 38.8% of the participating undergraduate medical students had a prior study of medical ethics.

To overcome the gap in knowledge, attitude, and behaviors concerning medical ethics, Mohammad and Ahmad (2011) concluded that there is an imperative need to incorporate ethics education, in an engaging manner, in a multidisciplinary environment.²¹

Most of our participating students believed positively regarding studying medical ethics. These results agree with several previous studies that emphasized the necessity of studying medical ethics at undergraduate level. Vodenitcharova, Leventi, and Popova 2019 survey results showed that students had a good attitude towards medical ethics education. They considered medical ethics as a daily decision-making tool.²² Kavas et al. 2020 results declared that a pressing need exists to integrate ethics courses into the 6-year professional training.⁶ Imran et al. 2014 study demonstrated that majority of the studied participants agreed that understanding of ethics is essential for their profession and should be introduced into the undergraduate curriculum.²³ Students who took part in Al-Haqwi and Al-Shehri 2010 study viewed medical ethics as a subject worth learning and comprehending rather than merely relying on common sense.⁵ Al-Shehri, Siddiqui, and Khalil 2020 denoted the necessity of enhancing medical ethics education in Saudi Arabia.¹¹ AlKabba et al. 2013 have emphasized the need for medical licensing organizations to set standards to assist medical schools in the creation of their curriculum.²⁴ The medical ethics course material should be culturally appropriate and based on social requirements, with the consideration of the worldwide experience.¹⁶ Moreover, training in the form of workshops could enhance medical students' knowledge, performance, and contentment.²⁵

The positive consequences of teaching an advanced and well-developed medical ethics curriculum at the undergraduate level can be evident in helping students who are future physicians to become more ethically conscious and, in turn, help "rehumanize" medicine by ensuring respect of patients' rights. Accordingly, students will be well-prepared to face real-life ethical challenges when they become physicians. The optimum time to introduce medical ethics to students is during their undergraduate study, when they are receptive and not overburdened with the everyday demands and strains.^{16,17,20}

Conclusion:

Our study demonstrated that the majority of the

participating students were able to understand the importance of medical ethics in their future career. Most of them were knowledgeable about different aspects of medical ethics and showed good perception and a positive attitude towards studying medical ethics. Including an advanced and well-developed medical ethics curriculum into the undergraduate curriculum must be considered, as well as providing ongoing educational initiatives including workshops, and conferences to underline the importance of ethical practice. Our results could help in the development of such an advanced curriculum.

Limitations of the Study

The main limitation of the current study is the fact that it was a cross-sectional study carried out only among medical students in COM-JU. Consequently, the findings of this study may influence generalizability. A larger sample size involving other medical schools is substantial to enhance and improve data on the knowledge and perception of medical students. Recall bias and social desirability effects are other limitations.

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Declarations

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Authors' contribution:

Data gathering and idea owner of this study: MA Ibrahim, KB Almadi, BD Alsharari, FH Alsharari
Study design: MA Ibrahim, KB Almadi, BD Alsharari, FH Alsharari, EMA Mostafa

Data gathering: MA Ibrahim, KB Almadi, BD Alsharari, FH Alsharari, EMA Mostafa

Writing and submitting manuscript: MA Ibrahim, KB Almadi, BD Alsharari, FH Alsharari, EMA Mostafa

Editing and approval of final draft: MA Ibrahim, KB Almadi, BD Alsharari, FH Alsharari, EMA Mostafa

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