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Research Article

Attitude and Awareness of Medical Students Regarding Medical Ethics Education in Karbala

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Abstract

Background: Medical ethics guides healthcare professionals in moral decision-making, emphasizing patient welfare, minimizing harm, and respecting values. It integrates principles like autonomy, justice, beneficence, and non-maleficence. Though vital in clinical practice, teaching ethics faces challenges, such as a theoretical focus over practicality and students prioritizing core medical courses over ethical education. This study aims to evaluate medical students' attitudes and awareness regarding medical ethics courses among students at the University of Kerbala.
Methods: A questionnaire-based cross-sectional study was conducted from February to July 2024 among 218 fourth- to sixth-year medical students at the University of Kerbala. Data were collected online and analyzed using SPSS version 24.0. A pilot study ensured validity and reliability. Statistical significance was set at $p < 0.05$.
Results: A majority of students demonstrated favorable awareness of medical ethics, with 66.5% attributing their knowledge primarily to lectures. However, 58.3% exhibited limited comprehension of core principles. The total mean attitude score percent was 83.2%. Most students viewed ethics education as vital for the patient-doctor relationship and engaging with ethical issues.
Conclusions: Medical students expressed positive attitudes toward medical ethics education and strongly recognized its professional importance. The findings highlight the need for more effective teaching methods and enhanced practical training. Students who attended ethics lectures had significantly higher attitude scores.

Keywords: medical ethics; medical education; awareness; attitude; medical students; Kerbala.

Introduction

Medical ethics, knowledge, practice, and attitudes among healthcare professionals are crucial concerns in today's highly sophisticated and costly medical interventions. A strong foundation is necessary to support healthcare professionals and students enrolled in clinical practice when they encounter ethically challenging circumstances [1-3]. Clinical medicine is inherently and intimately linked to ethics, as doctors have an ethical duty to protect and enhance patient welfare, prevent or minimize harm, and respect the patient's values and requests [4-5]. The basis for proper behavior is laid by a set of principles known as ethics. It instills in students the idea of what is good or right and what is bad or wrong in light of social norms and human values. The application of these values to medical care, treatment, and professional behavior is known as medical ethics [6-7].

Medical ethics constitutes a framework of principles and guidelines that govern professional conduct at both individual and institutional levels within healthcare. It also functions as a systematic approach to identifying, evaluating, and promoting the core values and ethical standards essential to medical practice [8]. Medical ethics is concerned with the moral guidelines that direct the use of medical knowledge when treating patients and provides the foundation for choices made in instances of disputes, misunderstandings, and difficulties [9]. Although closely related, medical ethics and bioethics are distinct fields. Medical ethics is primarily concerned with the ethical principles and dilemmas encountered in clinical practice and patient care,

whereas bioethics encompasses a broader interdisciplinary domain, addressing moral issues arising from advancements in the biological and biomedical sciences, including research, biotechnology, and public health [10-11]. The four fundamental principles of medical ethics, autonomy, justice, beneficence, and non-maleficence, serve as the foundational framework guiding healthcare professionals in making ethical decisions and determining appropriate interventions within clinical practice [12-13]. A solid understanding of ethical concepts is necessary for addressing the variety of clinical and social issues that arise in the practice of medicine. Ethical practice involves the obligations and responsibilities that health professionals have to their colleagues and patients. The increasing recognition of clinical ethics in routine medical practice has led to its formal integration into the curricula of medical education and professional training programs, aiming to equip healthcare practitioners with the ethical competencies necessary for informed clinical decision-making [14]. Teaching and evaluating ethics education has its own set of challenges. For instance, ethics education is not usually conducted in a realistic or contextual setting, and theoretical understanding of ethics does not always translate into better ethical behavior [1]. Although medical ethics is a crucial aspect of undergraduate education, integrating it into the curriculum has consistently posed challenges. This is largely due to students prioritizing their core medical courses, which often leaves ethics as a secondary concern [15]. This study aims to assess medical students' awareness and attitudes toward medical ethics education.

Materials and Methods

Study design and setting

An analytical cross-sectional study was conducted in 2024. Data collection took place from February 15 to May 31, 2024. It involved undergraduate medical students from the College of Medicine at the University of Kerbala, which is located in Karbala province in the center of Iraq. The study targeted undergraduate students in their fourth, fifth, and sixth academic years. A total of 218 participants were included out of 815 eligible students. Students from the first, second, and third academic years were excluded due to their limited exposure to medical ethics.

Data collection tool

After reviewing the literature, a structured questionnaire was adapted from previously published studies [16-17]. Originally developed in English, the questionnaire was translated into Arabic to ensure clarity and accessibility for participants and disseminated electronically in both languages through Google Docs.

The questionnaire comprised three sections. The first section focused on socio-demographic variables, including age, gender, marital status, academic year, and place of residence. The second section assessed participants' awareness of medical ethics and included four questions covering attendance at medical ethics lectures, perceived importance of medical ethics, sources of knowledge, and familiarity with fundamental ethical principles. The third section evaluated attitudes toward medical ethics through ten statements addressing topics such as confidentiality, respect for human life, consideration of patients' perspectives, physicians' responsibilities, and the significance of ethics education. Responses in this section were measured using a 5-point Likert scale.

A pilot study involving 12 students was conducted to identify potential challenges in the data collection process and assess the reliability of the questionnaire. These participants were excluded from the final analysis. Based on their feedback, necessary modifications were made to improve clarity and relevance. It was distributed electronically using Google Docs. Participants were informed about the purpose of the study and their right to voluntarily participate or decline without any consequences.

Scoring system

The 5-point Likert-type scale for the 10 attitude questionnaire items was scored for each item (from 0 to 5). For questions 1, 2, 3, 7, 8, and 10, values were assigned as follows: 5 for "strongly agree," 1 for "strongly disagree," and 0 for "I do not want to answer." For questions 4, 5, 6, and 9, values were assigned as follows: 1 for "strongly agree," 5 for "strongly disagree," and 0 for "I do not want to answer." A mean score for each question was calculated out of a maximum of five, and the Grand mean score was then obtained, representing the average of the means of the 10 questions out of 5 points. Furthermore, we calculated the mean attitude score percentage for easier understanding.

Ethical approval

Ethical approval was obtained from the Medical Research Bioethical Committee of the College of Medicine, University of Kerbala (No: 24-9), on 6 March 2024. All data collected through the questionnaire were coded to ensure participant confidentiality, and no personally identifiable information was gathered.

Statistical analysis

The data were entered and analyzed by using the Statistical Package for the Social Sciences (SPSS 24.0 for Windows). The descriptive statistics were used in terms of frequency, percentage, and mean ± SD, presented in appropriate tables and graphs. Normal distribution was assessed using the Kolmogorov–Smirnov test, and the attitude score was shown to be not normally distributed. So the Mann-Whitney and the Kruskal-Wallis tests were used to assess the difference in the means (medians) of the attitude score. Further, the 95% confidence interval of the mean score was calculated. A significance level was considered when p is less than 0.05.

Results

The current study included 218 medical students and was conducted to explore attitudes and awareness of medical students regarding medical ethics education in Karbala province. Close to two-thirds of the participants were female (65.1%). Most of the study participants were single (93.6%), and urban residence accounted for 84.4% of the total. About one-half of the study participants (49.1%) were in the 6th academic year, and the other half accounted for the 4th and 5th classes (Table 1). Out of 815 eligible students, 218 participated, yielding a response rate of 26.7%. About one-fifth of the study participants reported none or minimal attendance at medical ethics lectures, whereas the other four-fifths reported that they attended frequently or sometimes to medical ethics lectures (Figure 1).

Regarding the awareness of medical students towards medical ethics, a large proportion of the study participants (89.9%) regarded *"importance of knowledge and implementation of medical ethics among doctors"* as *"must know and follow"* and as *"Very important"*. The main sources of medical ethics knowledge among the studied participants were lectures, followed by social media (66.5% and 17%, respectively) (Figure 2).

The results of the current study revealed that 61.9% of the study participants did not know if there was any ethics committee in their college, and 27.1% reported the presence of an ethics committee in their college. When the study participants were asked if they were aware of the four basic principles of medical ethics, 22.9% of the study population reported they were aware of them (Table 2).

Table 1: Socio-demographic characteristics of the study participants

Characteristics	Categories	Frequency with percentage
Age (years)	Below 22	49 (22.5)
	22- 23	108 (49.5)
	24 and more	61 (28.0)
	Mean ±SD 22.63±1.53	
Sex	Male	76 (34.9)
	Female	142 (65.1)
Marital status	Single	204 (93.6)
	Married	14 (6.4)
Residence	Rural	34 (15.6)
	Urban	184 (84.4)
academic year	4th class	55 (25.2)
	5th class	56 (25.7)
	6th class	107 (49.1)

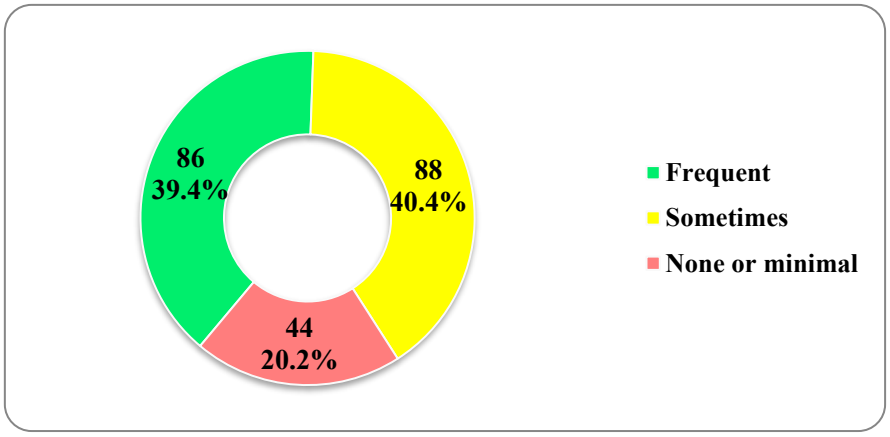

Figure 1: Attendance at the medical ethics lecture among study participants

Regarding the attitude towards medical ethics, the responses of the study participants to the ten attitude questions revealed a mean attitude score ranging from 3.42 to 4.82 (out of 5). The total mean attitude score was 4.16 ± 0.45, and the total attitude percent was 83.2% (C.I. = 81.9% - 84.3) (Table 3). Regarding the association between the socio-demographic characteristics of participants and their attitude scores, the analysis of the results showed that attendance at a medical ethics lecture was associated with a significantly higher mean attitude score than non-attendance participants (p=0.006) (Table 4).

Discussion

Kerbala Medical College (KMC) has followed a 6-year undergraduate problem-based learning (PBL) curriculum since the 2013/2014 academic year, promoting an integrated, system-based approach. The curriculum reduces large lectures in favor of small group teaching (SGT), with at least 50% of student contact time occurring in labs or PBL sessions to enhance skills and attitudes. Early integration of basic and clinical sciences is emphasized. The first-year covers 'Fundamentals of Medicine' and 'Human Biology,' followed by nine system-based units over the next two years. Students attend two PBL sessions weekly, along with practical and skills labs aligned with clinical case scenarios introduced at the start of each week [18-19].

Table 2: Awareness of study participants towards medical ethics

Questions	Number	Percent
How important is the knowledge and implementation of medical ethics among doctors?		
Must know and follow	106	48.6
Very important	90	41.3
Marginally Important	14	6.4
Not important	3	1.4
I don't know	5	2.3
What are the sources of your medical ethics knowledge?		
Lectures	145	66.5
Social media	37	17.0
Online sources such as Website	15	6.9
Seminars	5	2.3
others	16	7.3
Is there any ethics committee in your college?		
Yes	59	27.1
No	24	11.0
Don't Know	135	61.9
Are you aware of the four basic principles of medical ethics?		
Yes	50	22.9
No	127	58.3
Somewhat	30	13.8
Don't Know	11	5.0

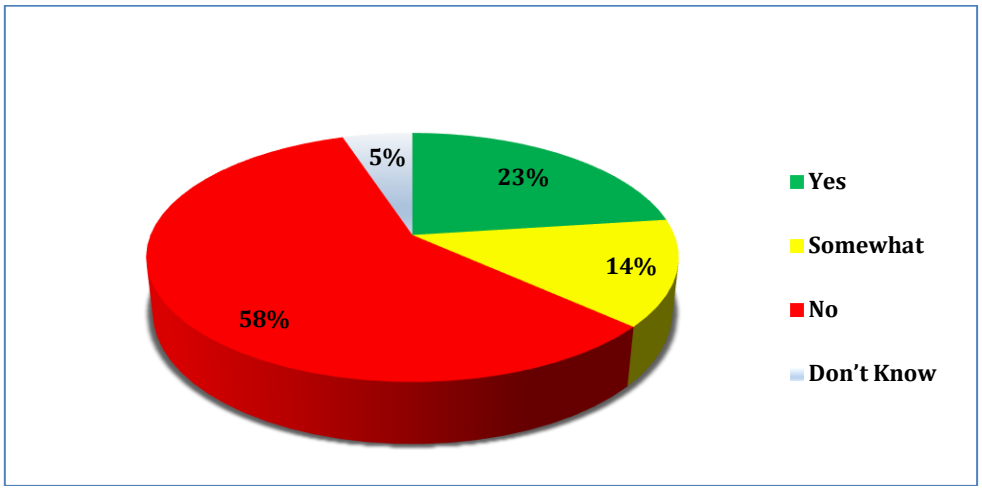

Figure 2: Awareness of the four basic principles of medical ethics

Table 3: Attitude of study participants towards medical ethics

Attitude questions	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I don't want to answer	Mean score
The physician is obligated to uphold the highest respect for human life and dignity.	164 [75.2]	44 [20.2]	6 [2.8]	1 [0.5]	1 [0.5]	2 [0.9]	4.73±0.53
Physicians must stay updated, improve their skills, and seek help when needed.	169 [77.5]	43 [19.7]	5 [2.3]	1 [0.5]	0	0	4.74±0.52
The physician should protect the patient's confidentiality and adopt an appropriate manner of communication	185 [84.4]	27 [12.4]	6 [2.8]	0	0	0	4.82±0.45
Listening and respecting the patient's views do not play an important role in the duties of a doctor	17 [7.8]	8 [3.7]	22 [10.1]	75 [34.4]	96 [44]	0	4.03±1.18
It is not important to disclose all the information to the patients regarding their treatment	7 [3.2]	29 [13.3]	88 [40.4]	52 [23.9]	41 [18.8]	1 [0.5]	3.42±1.04
The doctor is not responsible for the therapy prescribed to the patient	1 [0.5]	6 [2.8]	25 [11.5]	86 [39.4]	96 [44]	4 [1.8]	4.26±0.81
Medical ethics teaching for medical students is an important aspect of medical education	115 [52.8]	72 [33]	22 [10.1]	4 [1.8]	3 [1.4]	2 [0.9]	4.35±0.84
The teaching of medical ethics will enable me to engage with contemporary ethical issues	91 [41.7]	77 [35.3]	42 [19.3]	2 [2.9]	5 [2.3]	1 [0.5]	4.14±0.92
Medical ethics teaching would neither influence the attitude and behavior of doctors nor improve the patient-doctor relationship	8 [3.7]	6 [2.8]	45 [20.6]	86 [39.4]	72 [33]	1 [0.5]	3.96±0.99
I should know how to assess a patient's capacity to make informed decisions about his/ her health care	31 [14.2]	70 [32.1]	89 [40.8]	8 [3.7]	3 [1.4]	17 [7.8]	3.59±0.85
Total Mean Attitude Score							4.16±0.45
Total mean attitude score percent	83.2% [C.I = 81.9% - 84.3]						

Table 4: Association of the socio-demographic characteristics of participants and the Mean Attitude Score

Characteristics	Categories	Mean Attitude Score	SD	P value
Age (years)	Below 22	4.23	0.36	0.287
	22- 23	4.14	0.49	
	24 and more	4.11	0.42	
Sex	Male	4.12	0.52	0.722
	Female	4.17	0.40	
Marital status	Single	4.15	0.45	0.787
	Married	4.19	0.42	
Residence	Rural	4.20	0.45	0.670
	Urban	4.15	0.45	
Academic year	4th	4.20	0.41	0.568
	5th	4.15	0.44	
	6th	4.13	0.47	
Attendance at the medical ethics lecture	Frequent	4.26	0.43	0.006*
	Sometimes	4.12	0.44	
	None or minimal	4.01	0.45	

* Significant P value of less than 0.05. The Mann-Whitney test or the Kruskal-Wallis test was used for abnormally distributed variables.

The majority of respondents were female (65.1%), likely reflecting the higher proportion of females in the college, consistent with findings from studies in Mosul and Karbala [2, 16]. Most participants (84.4%) were from urban areas, which aligns with the fact that over 70% of Karbala's population resides in urban settings [20]. Approximately 20% of participants did not attend the medical ethics lectures, possibly due to a lack of interest or the perception that the subject is unimportant. However,

this non-attendance rate is lower than those reported in studies at Al-Kindy and Mosul universities, where rates were 31% and 32%, respectively [16, 21].

Most students scored highly in the awareness domain, with 90% considering medical ethics very important to understand and follow. This finding is higher than the results of similar studies conducted in Saudi Arabia and India, where a comparable level of awareness was observed among participants, 76.7% and 62.3%, respectively [17, 22].

The majority of participants (66.5%) reported lectures as their primary source of medical ethics knowledge. This is higher than findings from similar studies in Saudi Arabia and India, where 59.8% and 59.6% of participants, respectively, identified lectures as their main source [17, 22]. A significant proportion of students (58.3%) were unfamiliar with the four basic principles of medical ethics, which may be attributed to gaps in the college curriculum or a lack of interest in the subject. This percentage is relatively lower than that reported in a previous study conducted in Karbala [2].

Significant responses were recorded regarding doctors' respect for human life. Seventy-five percent of students strongly agreed, and 20% agreed that respecting and valuing a patient's life is essential for a successful doctor–patient relationship. This finding aligns with a study conducted in India [17]. In contrast, a study at Jouf University in Saudi Arabia found that 57% of participants believed that doctors know best, regardless of the patient's opinion [23]. Regarding patient confidentiality, 84.4% of participants considered it extremely important and believed it must be strictly maintained. This percentage is higher than that reported in the Indian study [17].

For optimal medical care, information about a patient's condition should be openly discussed with the patient. However, when participants were asked about sharing information with patients, the mean score was 3.42. This may reflect a gap in medical awareness between doctors and society, or it may stem from a traditional approach in which doctors are accustomed to making decisions without full patient involvement, an approach that is increasingly viewed as outdated in light of advances in medicine and medical ethics. In comparison, a study conducted in South India found that 28% of medical students agreed that the doctor's decision should be final in cases of disagreement between the patient or family and healthcare professionals regarding treatment options [24].

Some limitations that recognized in the study, as it is limited to one medical college in Kerbala, which might restrict the generalizability of the findings. Further, as a questionnaire-based study, the answers were subject to the participants. Furthermore, the distribution of the questionnaire during the exam period may have affected the response rate and sample size. Despite these limitations, this study targeted medical ethics education, which is vital in shaping the professional behavior of physicians and influencing patient outcomes, ultimately contributing to improved healthcare quality.

Conclusions

Students demonstrated a modest level of awareness and attitude toward medical ethics. However, the practical application of these principles remains limited and requires significant improvement. A clear gap was also observed in the understanding of the basic principles of medical ethics. Therefore, enhancing the quality and delivery of ethics education is essential to ensure that future physicians are both scientifically competent and ethically grounded.

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Conceptualization, S.R.M., A.F.A., S.S.O., A.T.A., and A.A.A.; Methodology and questionnaire design, S.R.M., A.F.A., and A.A.A.; Data collection, S.R.M., and A.F.A.; Resource, S.R.M., and A.F.A., Supervision, S.S.O., A.T.A., A.F.A., and A.A.A. Reviewing final manuscript, S.R.M., A.F.A., S.S.O., A.T.A., and A.A.A.; Writing, S.R.M.

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