

## Knowledge, Attitudes, and Practice of Doctors About Medical Ethics in Practicing Medicine

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### ABSTRACT

**Background:** Medical ethics are moral values that direct the doctor's profession to enhance patient outcomes and community health. It guides doctors' obligations to patients, colleagues, and society, upholding beneficence, nonmaleficence, justice, respect for autonomy, and confidentiality.

**Objectives:** To assess the knowledge, attitudes, and practices of doctors regarding medical ethics.

**Materials and methods:** An analytic cross-sectional study was conducted in Wasit province, Iraq. A self-administered questionnaire was distributed to 258 randomly selected doctors from the three main governmental hospitals in Al-Kut City, Iraq. This questionnaire consisted of four main parts, including sociodemographic features, knowledge (14 items), attitudes (6 items), and practice questions (5 items). In addition to inquiring about who to consult when facing ethical issues.

**Results:** An analysis of 240 completed questionnaires revealed that the highest percentage of doctors (89.6%) were aware of the importance of confidentiality when treating patients, and the same percentage (89.6%) didn't agree that consent is required only for surgical intervention. The majority of doctors (88.8%) didn't agree with helping patients to die even though they requested it. Regarding attitude, most doctors (84.2%) strongly disagreed and disagreed with the commission for sending patients to tests. This was followed by 83.7% who believed that doctors should not tell patients that tests are normal when not conducting them. The highest percentage of doctors mentioned witnessing unethical behavior from their clinical team. Knowledge of doctors was significantly related to their sex and years of experience (P-values = 0.001 and 0.001, respectively). While attitude was related to both job description and years of experience, with a P-value of 0.001 and 0.049. Those doctors who received a medical ethics postgraduate course had a significantly higher percentage of good knowledge scores than those who didn't receive it (P-value = 0.001). Around 40% of the sample mentioned consulting their families and friends when facing any ethical problem.

**Conclusion:** Even though the majority of the doctors in this study had good knowledge and positive attitudes toward medical ethics, it was found that new doctors who received postgraduate courses in medical ethics were more knowledgeable than other doctors.

**Keywords:** Medical ethics; Medicine practice; Knowledge; Attitudes; Practice.

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### INTRODUCTION

Medical ethics is an essential aspect of practicing medicine that involves the ethical obligations of doctors to their patients, colleagues, and society [1]. The importance of medical ethics in the medical profession is paramount, as it ensures improved patient outcomes, increased trust and confidence in

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the healthcare system, and better decision-making. Adhering to ethics in healthcare supports the notion that healthcare professionals act in their patients' best interests, upholding the principles of beneficence, nonmaleficence, justice, respect for patient autonomy, and confidentiality [2, 3].

Medical ethics also provides a guide for healthcare practitioners in making compassionate, fair, and effective choices for their patients' treatment, ultimately contributing to the overall betterment of humanity [4]. Furthermore, healthcare professionals need to understand medical ethics to navigate the ethical challenges that may arise in modern medicine, especially with the rapid advancements in healthcare technology and new medical practices [5]. Overall, medical ethics is fundamental to ensuring the highest standard of care and maintaining the trust and well-being of patients [6]. Adequate knowledge, a favorable attitude, and comprehensive training in medical ethics help prepare medical professionals to anticipate, cope with, discuss, and resolve ethical dilemmas and challenges encountered in day-to-day practice [7].

The knowledge, attitudes, and practice of medical ethics among doctors are crucial in ensuring ethical medical practice. A cross-sectional study conducted on healthcare practitioners from three tertiary care hospitals in the Taif government, Kingdom of Saudi Arabia (KSA), found that introducing medical ethics and insisting on its importance in medical institutions positively affects practitioners' knowledge, attitude, and practice [8]. Similarly, a study conducted on doctors in three teaching hospitals in Sri Lanka found that regular in-service training on medical ethics for doctors would help to improve their knowledge, attitudes and ethical conduct [7].

In Iraq, there is no recent study illustrating doctors' knowledge and practice regarding medical ethics as we know it. Therefore, this study aims to explore the doctors' knowledge, their attitudes, and their practices regarding ethical issues in practicing medicine in Wasit Province, Iraq. This will help in ensuring the best understanding and application of the ethical and legal roles.

## MATERIALS AND METHODS

### Study design and setting

An analytic cross-sectional study was conducted in Wasit Province, Iraq. Wasit is a governorate located in the eastern part of Iraq that aligns the border with Iran, to the southeast of the capital, Baghdad. The population of this study consisted of doctors from the three main government hospitals in Al-Kut City, Wasit Province (Al-Zahraa Teaching Hospital, Al-Karama Teaching Hospital, and Al-Kut General Hospital). Data collection was continued for 2 months, from the 1st of December 2023 to the end of January 2024.

### Sample size and sample procedure

The sample size was calculated according to the sample size equation for the cross-sectional study ( $n = (Z^2 \times P \times (1-P)) / d^2$ ), considering that 20% of doctors from the previous study in KSA had a good knowledge of medical ethics in practicing medicine [9]. With a 95% confidence interval, power of 80%, and precision ( $d$ ) = 0.05. The minimum required sample is 246. The total sample was 258 when 5% (12) was added for non-response.

This study recruited doctors from a list of doctors in each hospital using a simple random sample. The study included all doctors with different job titles. Only those who refused

to participate or who returned incomplete questionnaires were excluded.

### Data collection tool

The questionnaire was prepared from a previously published study by the KSA [9]. The reliable Arabic version of their questionnaire was used, with some modifications done after pretesting it on 5 doctors who lastly excluded from the final analysis.

The questionnaire consisted of four main parts. The first part contains sociodemographic features of the participant doctors, like, sex, age, job title, and years of experience. In the second part, participants responded to 14 knowledge-related questions with a yes or no response. Six attitude-related questions comprised the third part, all of which were answered with (strongly disagree, disagree, neutral, agree, or strongly agree). The five-practice closed-ended questions represented the fourth part of the questionnaire, with either a yes or no answer. Additionally, a multiple-choice question was asked to determine who was consulted when faced with an ethical issue, based on the various choices provided. The questionnaire was self-administered to doctors and collected later after they filled it out.

### Scoring system

All data related to knowledge were coded as 1 for the correct response and zero for the incorrect one (yes is the correct answer for questions 1-7, and no is the correct answer for the remaining questions). The sum of all correct answers was represented by a knowledge score ranging from (0 to 14) which was then converted to a percentage. According to percentages, the knowledge score was divided into three categories; poor knowledge for those who had less than 40%, between 40 and 70, with fair knowledge, and those above 70, with good knowledge. For attitude-related questions, the 5-item Likert scale was used with the following coding procedure: for questions 1-5 (strongly disagree = 5, disagree = 4, neutral = 3, agree = 2, and strongly disagree = 1). The procedure was reversed for the sixth question, the reverse was done. The mean of attitude (1-5) was calculated for all the participants, and according to it, the attitude score was divided into positive (more than 3) and negative (3 and less).

### Ethical considerations

The Ethical Committee at the College of Medicine, Wasit University, Wasit, Iraq, approved the study's start on September 1, 2023. Participants were invited according to their willingness to participate. They were informed about the study's objective, their confidentiality, and the exclusive use of the data for research purposes.

### Statistical analysis

The collected data were entered and analyzed using the software program Statistical Package for Social Sciences (SPSS), version 26. This study employed both descriptive and inferential statistics. Categorical variables were represented with frequency and percentage, while numerical continuous variables were presented with mean and standard deviation (SD). The Chi-square test and Fisher's Exact test were used to assess the presence of an association between variables. Considering a P-value less than 0.05 as a statistically significant.

**RESULTS**

Out of the 258 questionnaires distributed to doctors in the selected hospitals, 240 were completed and returned. The response rate in this study was 93%. The participant doctors' ages ranged from 24 to 48 years old, with a mean and SD of  $30.13 \pm 6.74$  years. Table 1 displays other socio-demographic features. More than half of the sample were females, (55.4%), and the majority (80.8%) of them were equal to or below 35 years old. A higher percentage (40.4%) of them were residence or graduate intern doctors, and the majority (70.4%) had less than 5 years of medical practice experience.

Table 2 represents the various knowledge items. There were 173 (72.1%) doctors who knew that patients must have an idea about wrong procedures in his/her treatment. While 76.3% assumed that doctors have to act the best for patients even in difficult situations. Most of the sample (77.9%) knew that it is important not to harm patients, even when doctors can't do good for them. When the doctors asked about the patient's confidentiality, only 10.4% thought that it was not so important. The same percentage (10.4%) implied that consent is required only for surgeries. According to this study, there were no doctors (0%) with poor knowledge scores regarding medical ethics. Slightly more than half of them, 128(53.3%) had fair knowledge scores and 112 (46.75) had good knowledge scores.

Table 3 finds that more than half of the doctors (59.2%) strongly disagreed and disagreed with the statement that ethical issues are only important for legal actions. A slightly similar percentage (58.8%) strongly disagreed and disagreed with the statement, which related to the challenge of maintaining confidentiality when dealing with patients. Only 19.6% strongly disagreed and disagreed with the idea of claiming others' work as their own.

The total mean of attitude items for all the study doctors was  $3.8 \pm 0.51$ , with a minimum mean of 2.67 and a maximum of 5. The majority of doctors (n = 219, 91.25%) had a positive attitude toward medical ethics, and only 21 (8.75%) had a negative attitude score.

**Table 1.** Frequency distribution of socio-demographic and job features of the study participants (n = 240).

Variables	Frequency	Percentage
Sex		
Male	107	44.6
Female	133	55.4
Age (years)		
≤ 35	194	80.8
≥36	46	19.2
Job description		
Junior doctor (resident)/graduate intern	97	40.4
Fellows/ permanent Practitioner	87	36.3
Senior specialist/consultant	46	19.2
Years of experience		
≤ 5	169	70.4
6–10	20	8.3
11–15	25	10.4
≥16	26	10.8

**Table 2.** Frequency distribution of knowledge items responses among the participants (n = 240).

Knowledge questions	Responses Frequency (%)	
	Yes	No
The doctor must respect the patient's wishes	115(47.9)	125(52.1)
Patients have to be knowledgeable of mistakes made while being treated	173(72.1)	67(27.9%)
Doctors have to do their best for the patient, even when it is difficult.	183(76.3)	57(23.8)
Not harming patients is more crucial than doing good.	187(77.9)	53(22.1)
When treating children, parents' consent is essential.	142(59.2)	98(40.8)
If the law allows abortion, doctors cannot refuse to do so.	62(25.8)	178(74.2%)
Doctors can refuse patients when a male doctor needs to examine a female in case no female attendant is accessible.	143(59.6)	97(40.4)
For treatment, confidentiality is not so important.	25(10.4)	215(89.6)
Doctors' wishes are the basis for deciding patients' treatment, regardless of their wishes	59(24.6)	181(75.4)
Doctors have to give optimal care to their patients, regardless of their decision	113(47.1)	127(52.9)
Doctors have to inform the patient's relatives about their situations	133(55.4)	107(44.6)
Doctors must inform neighbors in cases of communicable diseases	131(54.6)	109(45.4)
Surgery is the only situation that needs consent	25(10.4)	215(89.6)
If patients want to die, doctors must do so.	27(11.3)	213(88.8)

Most of the doctors (84.6%) in this study stated that they observed unethical behavior by one of the medical team members. There were 47.9% who stated that they worked unethically in some clinical situations. Nearly two-thirds of the sample revealed receiving a medical ethics course in the college in comparison to (32.9%) who received a postgraduate medical ethics course (Table 4).

Figure 1 shows that the highest percentage of doctors (39.6%) preferred to seek advice from their families or friends on ethical matters. Followed by 75 (31.3%) consulted their colleagues. Only 20 (8.7%) said they consulted an ethical committee if they needed advice on medical ethics subjects. Those who consulted the head of the department were 45 (18.7%), which was equal to those who consulted their supervisors.

Table 5 finds a statistically significant association between sex and the knowledge score (P-value = 0.001). Females tend to have better knowledge than males, with 57.1% of females

**Table 3.** Frequency distribution of responses to attitudes items among the study sample (n = 240).

Attitudes items	Responses Frequency (%)				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Doctors have to follow medical ethics only to avoid legal issues	16(6.7)	37(15.4)	45(18.8)	89(37.1)	53(22.1)
Confidentiality is a challenging matter, so it should be discarded	0(0)	26(10.8)	73(30.4)	102(42.5)	39(16.3)
Commission can be taken when sending patients for laboratory tests.	0(0)	17(7.1)	21(8.8)	46(19.2)	156(65%)
Doctors can tell patients that the test is normal even if not conducted.	0(0)	12(5)	25(10.4)	76(31.7)	127(52)
Doctors can accept a costly gift from their patients	0(0)	31(12.9)	78(32.5)	67(27.9)	64(26.7)
Claiming the works of others as your own by deliberately not citing them is bad	64(26.7)	74(30.8)	55(22.9)	36(15)	11(4.6)

**Table 4.** Frequency distribution of responses to practice items among the study doctors (n = 240).

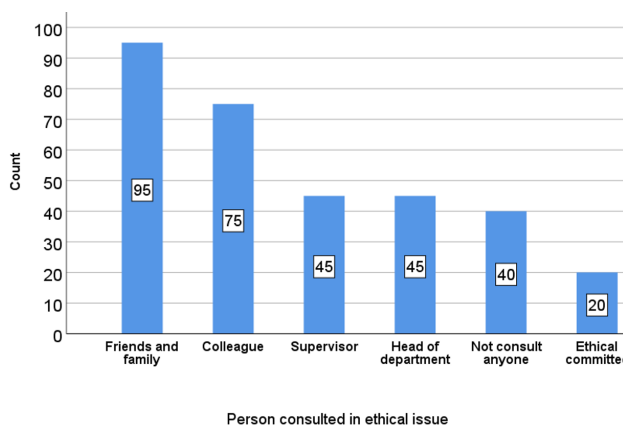
Knowledge questions	Responses Frequency (%)	
	Yes	No
Have you ever watched a member of your medical team behave in an unethical manner?	203(84.6)	37(15.4)
Have you encountered a situation at work that made you behave unethically?	115(47.9)	125(52.1)
Have a senior spoken rudely to you in a residency?	144(60)	96(40)
Did you receive a medical ethics course during college?	155(64.6)	85(35.4)
Did you receive a postgraduate medical ethics course?	79(32.9)	161(67.1)

compared to 33.6% of males who had good knowledge scores. A significant association was also found between the knowledge score and the years of experience, with a P-value of 0.001. With P-values of 0.001 and 0.049, respectively, the study participants' attitudes significantly correlated with their job description and years of experience.

Receiving a course in medical ethics during college was not associated with the doctor's knowledge and attitude about ethical issues in practicing medicine (P-values = 0.241, 0.492 respectively) in the same order. Those doctors who received a medical ethics postgraduate course had a significantly higher percentage of good knowledge scores than those who didn't receive it (P- value = 0.001) as seen in figures 2 and 3.

**DISCUSSION**

This cross-sectional study assessed the doctors' knowledge of various medical ethics items. Confidentiality and autonomy are among the most crucial issues. One of the fundamental duties of medical practice is confidentiality, which requires healthcare providers to maintain the privacy of a patient's



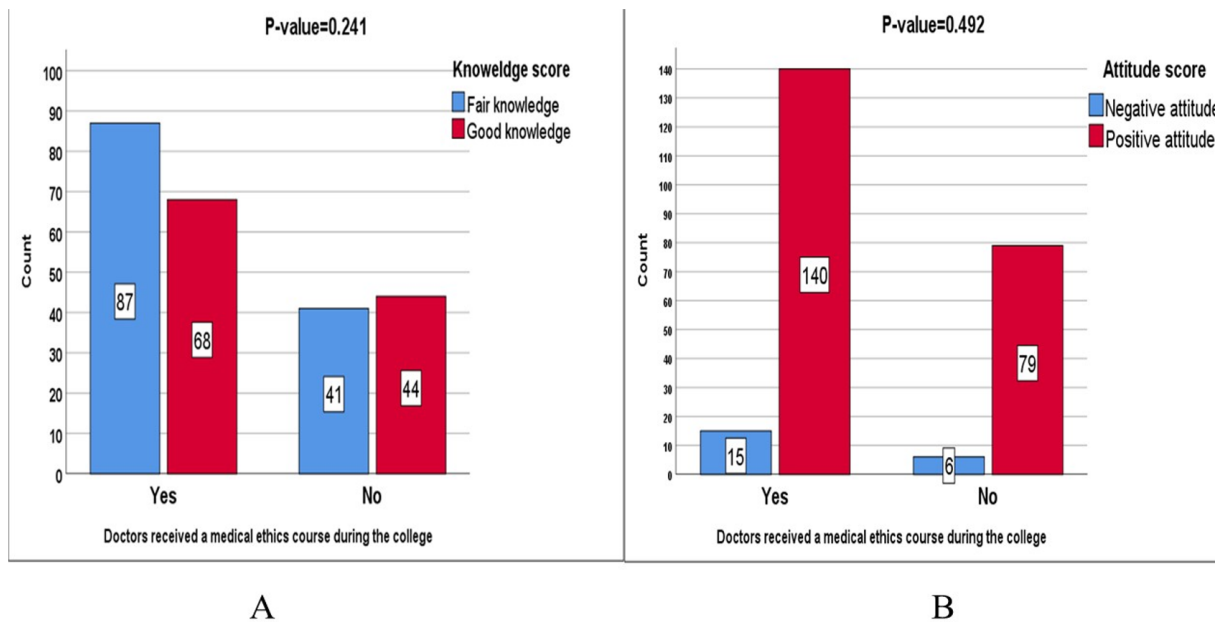
**Figure 1.** Doctors' response to the question related to whom they returned for ethical advice.

personal health information unless the patient provides consent for disclosure [10]. In this study, most doctors knew that confidentiality is an important issue in medical practice, just like what was found in Barbados [11]. A Jordanian study found that physicians had poor knowledge about patient confidentiality issues even though they were aware of their importance [12]. While good knowledge about confidentiality issues was found among Saudi doctors [9]. Slightly more than half of the doctors in this study wrongly said that relatives must know about the patient's condition. A similar percentage of doctors agreed with telling the neighbour if the patient has a communicable disease. This is still less than the percentages observed in a previous similar study conducted in India in which 61.7% of medical students agreed with informing relatives about a patient's condition [13]. The socio-cultural nature of Eastern communities may contribute to this result.

Most of the sample was aware of the necessity of telling patients about wrongdoing. The results of another study in Barbados, where 68% of doctors were aware of this issue, were slightly similar to this one [11]. A South Indian study also ob-

**Table 5.** Association between sociodemographic and job variables with knowledge and attitude scores among the study sample (n = 240).

Variables	Categories	Knowledge score		P-value	Attitude score		P-value
		Fair knowledge	Good knowledge		Positive	Negative	
		No (%)	No (%)		No (%)	No (%)	
Sex	Male	71(66.4)	36(33.6)	<0.001	97(90.7)	10(9.3)	0.770
	Female	57(42.9)	76(57.1)		122(91.7)	11(8.3)	
Age (years)	≤ 35	98(50.5)	96(49.5)	0.100	178(91.8)	16(8.2)	0.565
	≥ 36	30(65.2)	16(34.8)		41(89.1)	5(10.9)	
Job description	Resident/intern	61(62.9)	36(37.1)	0.053	87(89.7)	10(10.3)	0.001
	Fellows/permanent	37(42.5)	50(57.5)		81(93.1)	6(6.9)	
	Practitioner	5(50)	5(50)		5(50)	5(50)	
	Senior	25(54.3)	21(45.7)		46(100)	0(0)	
Years of experience	≤ 5	93(55)	76(45)	0.001	153(90.5)	16(9.5)	0.049
	6–10	5(25)	15(75)		20(100)	0(0)	
	11–15	20(80)	5(20)		25(100)	0(0)	
	>15	10(38.5)	16(61.5)		21(80.8)	5(19.2)	



**Figure 2.** Associations between receiving a medical ethics course in college with doctors’ knowledge (A) and attitudes (B).

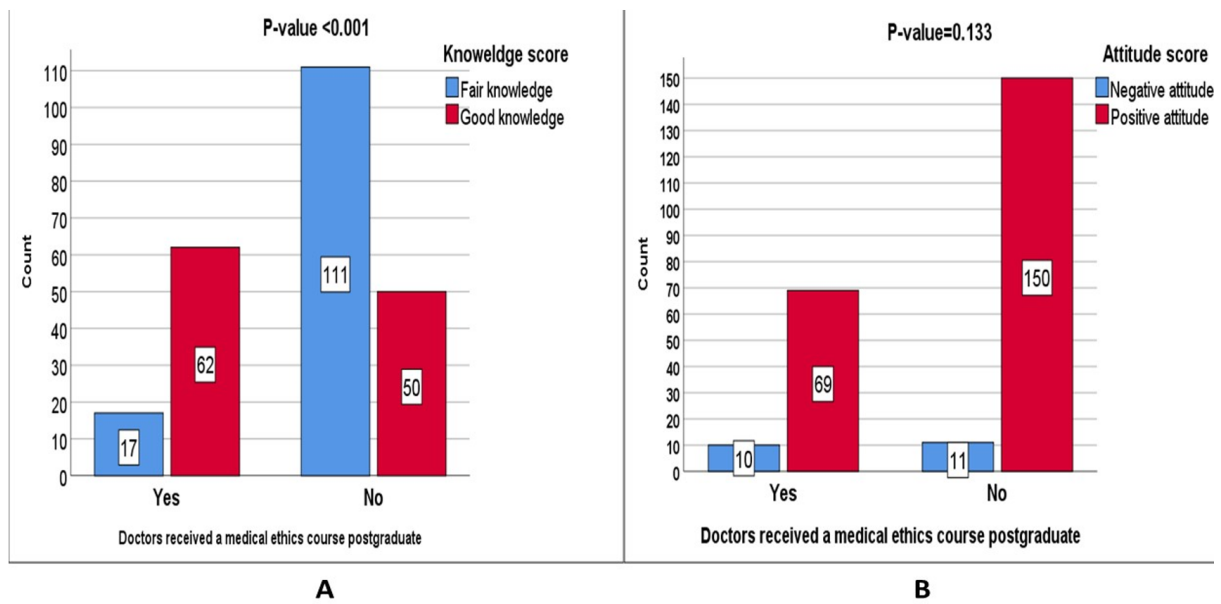
served a similar result, with 70% of medical students agreeing to inform patients about wrongdoing [14].

Less than half of the doctors understood the importance of respecting patients’ wishes during treatment. Patients’ involvement in the planning of their treatment is a very important aspect of a successful treatment plan. Patients must be incorporated in deciding their management after they are provided with all necessary information. This makes patients more adhere to their treatment, which is allied with their beliefs and preferences [15]. In a Nepalian study, 66.9% of resident doctors agreed that adhering to patient’s wishes is an important aspect of practicing medicine [16]. While only 23% of physicians in Barbados agreed with this statement [11].

Respecting patients’ wishes was also presented in around 60% of doctor’s answers’ regarding a situation when a female patient refused to be examined and treated by a male doctor.

Nearly three-quarters of the doctors disagreed that they the final say in deciding how to treat patients, regardless of the patient’s opinion or consent. Even when rephrasing the question, it emphasizes the doctor’s decision to act in the patient’s best interest, even against the patient’s will. In India, 78.1% of doctors agreed with the statement “Doctor should do best for the patient irrespective of the patient’s opinion” [17]. In a KSA study, 51% of healthcare workers agreed that a patient’s opinion must be considered irrespective of the doctor’s [8].

Informed consent is also an ethical and legal obligation for medical practitioners, and it involves describing the proposed intervention, emphasizing the patient’s role in decision-making, discussing alternatives to the proposed intervention, discussing the risks of the proposed intervention, and eliciting the patient’s preference. In some specific situations, psychologists can share information without the client’s written



**Figure 3.** Associations between receiving a medical ethics course postgraduate with doctors’ knowledge (A) and attitude (B).

consent, such as to protect the patient or the public from serious harm [18]. In this study, 90% of doctors were sure that consent was required for each medical intervention. The majority (97.1%) of intern doctors in India and 72% in Barbados possessed knowledge about obtaining consent during patient examinations, investigations, and treatments, extending beyond surgical procedures [11, 19]. Nearly 83.8% of the Indian medical postgraduates agreed that informed consent was required for treatment such as surgery, but did not feel it was necessary for investigations [20]. Even undergraduate Indian medical students, 60% of them were aware of this information [14]. Less than two-thirds of the doctors in the current study concurred that children cannot receive treatment without their parents’ consent. This was in agreement with a previous study in Barbados [11]. Increasing percentages of doctors who know about the importance of informed consent, whether for adults or children, indicated their high awareness level to respect patients’ autonomy and not only avoid legal action. More than half of participant doctors strongly disagreed with the notion that ethical conduct only benefits legal actions, a view that was reported by less than 87% in Sri Lanka and 95% in Egypt [21, 22]. Keep away from legal action, most doctors disagree with writing exams or investigations that are not done as normal, and this may reflect their honest dealing with their duties. This result was similar to what was reported by medical students in South India [14].

Only 11.3% of doctors wrongly believed that it was possible to assist patients if they wished to die. Even if this subject is controversial and interferes with patient autonomy, the legislators must consider the religious background of the population. Iraqi law forbids this. Both Christianity and Islam reject this, asserting that God alone bestows life and has the sole authority to determine when to terminate it [23, 24]. The same was true regarding the decision to have an abortion: around one-quarter of doctors agreed that they cannot refuse abortion if the law allows it. Cultural attitudes and religious norms significantly influence doctors’ decisions about abortion [25]. In another study, only 2% agreed that assist-

ing patients to die is acceptable, and only 3% agreed to do abortions for patients if the law allows it [11]. Only 10% of Indian doctors and 27.9% of Jordanian doctors declined to perform an abortion. Most Jordanian doctors (81.5%) also refused assisted death [13, 26]. The principles of beneficence and non-maleficence must be considered in medical practice in addition to respecting religious and cultural values. These two principals were well observed in this study, around three-quarters of doctors positively identified that they should do their best for the patients even if it is difficult for them, or at least not harm them when they cannot benefit.

In the current study, none of the selected doctors had poor knowledge regarding medical ethics. The higher percentage of them (64.6%) who mentioned taking medical ethics courses in college, and the 32.9% who did so after graduating, could potentially explain this. Eighty-three percent of Iraqi medical students believed that studying medical ethics was crucial, particularly during their first or second year [27]. The majority of the participant doctors had less than 5 years of experience in medical practice, and they held fresh information about medical ethics from their college studies. However, the study’s result showed no significant relationship between the number of doctors receiving undergraduate courses and their knowledge level, with only postgraduate courses showing a significant relationship. In Sri Lanka, 81.2% had ‘poor’ knowledge [7]. They blamed doctors for not reading the ethical guidelines provided to them during their registration process. In addition, the doctors were unsatisfied with the medical ethics curriculum taught in their colleges. More than one-third of the sample in KSA showed poor knowledge [9]. Around three-quarters of doctors in tertiary care hospitals had adequate knowledge and awareness scores, according to another Indian study [17]. A higher knowledge, attitude, and practice about medical ethics were also related to receiving medical ethics courses, as seen in a study conducted in Nepal [16].

Female doctors had significantly better knowledge than males. This validated the findings of a prior Ethiopian study

[28]. Practitioners exhibited significantly lower percentages of positive attitudes compared to other job titles. The sedentary work environment in primary health care centers, where they encounter trivial cases, may contribute to their lack of interest and engagement in ethical matters. This percentage was higher than the previous study, which found that 60% of Egyptian doctors expressed positive attitudes [21]. Years of experience significantly correlated with both knowledge and attitudes, potentially due to the distinct curriculum and training during college and postgraduate stages, as well as the acquired experience. The same association was shown in an Egyptian study [29].

In this study, most of the doctors prefer seeking advice regarding ethical issues from their friends, families, and colleagues. This may explain why 48% of doctors mentioned acting unethically in their practice of medicine, especially when they witnessed around 84% of their friends and colleagues acting unethically. In Barbados, the highest percentage (58%) would like to consult their colleague about their ethical-related problems [11]. This may confirm that they chose to keep the subject inside their circle and didn't take the matter to a superior level. Their desire to avoid legal concerns may explain why the lowest percentage mentioned ethical committees as their solution to ethical-related problems. This result was in accordance with another study in Barbados [11]. About 71.2% of Nepalian doctors consulted the head of the department to resolve any ethical problem they faced [16].

There are three limitations to the current study. First, the study only involved one government and did not encompass the entire country. Second, the study's results were based on self-reporting by the doctors themselves, which may have caused bias. Despite the calculation of the sample size, it remains insufficient to establish a robust relationship between various ethical items.

## CONCLUSION

This study found that postgraduate courses significantly increased knowledge scores, despite the majority of doctors having good knowledge and positive attitudes toward medical ethics. As a result, this study recommends holding continu-

ous courses related to various medical issues, particularly ethical concerns, in order to keep doctors knowledgeable about this important subject and update their information. Future studies are also recommended.

## ETHICAL DECLARATIONS

### Acknowledgments

None.

### Ethics Approval and Consent to Participate

Approval for starting the study was obtained from the Ethical Committee in the College of Medicine, University of Wadit. Participants were asked to participate according to their willingness. They were informed about the objectives of the study, their confidentiality, and using the data for research purposes only.

### Consent for Publication

Not applicable (no individual personal data included).

### Availability of Data and Material

The data of the current study are available from the corresponding author when requested.

### Competing Interests

The authors declare that there is no conflict of interest.

### Funding

No funding.

### Authors' Contributions

Taher TMJ conceptualized the idea, designed the study, analyzed the data, and wrote the first draft. Ahmed HA collected all data and participated in writing the article draft. Both authors read and approved the final version of the manuscript.

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