Knowledge, Attitude, and Practice of Family Medicine Trainees in Saudi Training Programs towards Medical Ethics, in Riyadh

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ABSTRACT

BACKGROUND

Medical ethics is a system of moral principles that govern the practice of medicine. Ethical challenges frequently arise within the field of family medicine and may lead to complications. We wanted to assess the existing knowledge, attitude, and practice of family medicine trainees currently engaged in Saudi programs in relation to medical ethics in Riyadh.

METHODS

A cross-sectional study was carried out which encompassed a population size of 256 trainees from a total of nine different training centres. A self-administrated questionnaire containing 28 items was used. The questionnaires were distributed manually during the month of December 2016.

RESULTS

208 subjects returned the completed questionnaires with a response rate of 81.25 %. Eighty-eight percent of those surveyed agreed that a knowledge of medical ethics was important in medical practice. The most common source of knowledge of medical ethics and law of work amongst the trainees was found to be "during training" in both medical ethics (71.2 %) and law of work (60.6 %). Significantly, only thirty-eight percent participants had knowledge about content of a Saudi law of practicing healthcare professions. Meanwhile, 63.9 % were unaware of the content of the Hippocratic Code whilst 88.5 % were unaware of the content of the Nuremberg Code. Finally, 93.8 % were unaware of the Helsinki Declaration. In measuring the total scores of answers in relation to ethical problems for different values, the mean score for all respondents was 34.98 out of 50, and 51.92 of residents, got a score ≤ 35.

CONCLUSIONS

The knowledge, attitude, and practice of trainees toward medical ethics was found to be inadequate. It is, therefore, essential to incorporate teaching of medical ethics into future residency program for trainees as a structured course.

KEY WORDS

Ethics, Bioethics, Family Medicine, Training, Residency

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BACKGROUND

Medical ethics is a broad branch of ethics that deals with moral issues that arise within the medical field. Medical ethics is closely related to law. The legal system in most countries specify how physicians should deal with ethical and legal issues in patient care.[1] Over the past few years, however, there has been an increase in complaints by the public against healthcare workers. There seems to be an increased level of dissatisfaction concerning the amount of care and cooperation afforded to patients. These complaints may be due to a degree of unawareness by the healthcare workers involved regarding patients' rights. Moreover, realistically speaking, the community as a whole could be more educated regarding patient rights due to the diversity of information that exists.

Ethical challenges frequently arise in the field of family medicine and are potentially complicated in nature. Therefore, training in ethics is important for family physicians. Education in medical ethics can improve the attitudes, functional competency, and decision-making ability of healthcare workers. It can also offer them an insight into how to deal with a potentially contentious situation. These reasons, outlined above, provide the impetus to focus on the teaching of medical ethics to postgraduate trainees.[2]

However, even though medical ethics was recognised as being an important subject and was incorporated into undergraduate curricula in many medical schools, the postgraduate trainee residents spent less than 6 hours yearly in learning medical ethics regardless of their specialty.[3,4]

Furthermore, there are many barriers to the postgraduate learning of medical ethics despite different methods of learning being adopted such as case-based, lecture-based, grand-round and small group discussion.[4] Previous studies attributed this restriction in learning medical ethics to a lack of faculty engagement, a lack of residents' interest, congested curricula and to the pressing schedule of the residents.[3,4,5]

Trainee residents engage in a different range of unethical behaviour throughout their training. Hence, there is a need for trainees to undergo a period of practical training in order to provide them with the skills and knowledge that would help them resolve ethical conflicts in real life clinical situations. Moreover, there is a need to establish a monitoring system at the institutional level to detect inappropriate behaviour early on, provide counselling for it as well as implement a range of remediation programs.[6]

There, there are many medical ethical challenges our health professionals are facing. The top five of these challenges are patients' rights, equity of resource distribution, maintaining patient confidentiality, patient safety, and conflict of interest.[7]

In general, Arab cultural preferences dictate that the decision-making process pertaining to a given medical scenario is carried out by the doctors who are treating the patients or by their immediate family members. This situation should motivate the physician to be more aware of patients' rights and the need to share in the decision-making process with them.[8]

Significantly, the law in Saudi Arabia is based on Islamic rules. Islamic law is derived from three fundamental sources which are; (i) The Qur'an (ii) The Sunnah (meaning the recorded sayings and precedents set by the Prophet Mohammed along with his religious decrees); and, thirdly, there is what is known as, (iii) Ijtihad. Ijtihad can be defined as Islamic rulings that have been deduced from the Qur'an and the Sunnah by religious scholars.[9]

The Hippocratic Oath, The Nuremberg Code, and The Helsinki Declaration are renowned international references of medical ethics. In Saudi Arabia, one of the main resources of medical ethics is the law of practicing healthcare professions. This system was approved by Royal Decree No. M / 59 dated 11 / 04 / 1426 H. Decree Cabinet Resolution No. 276 Date 11 / 3 / 1426 AH.

This study aims to assess the knowledge, attitudes, and practice of those residents towards medical ethics. Hopefully, the study findings will subsequently help the programs' directors in improving the studying of medical ethics in Saudi Arabia.

METHODS

In 2016, there were 918 trainee residents in family medicine residency programs in Saudi Arabia. Out of these trainee residents, 256 were resident within the nine training centres in Riyadh who were enrolled in this cross-sectional study under the supervision of Saudi commission for health specialties. A self-administrated questionnaire containing 28 items was used to assess the knowledge, attitudes, and practice of both medical ethics and law of work. And also, aims to explore trainees' knowledge of the role of the institutional ethics committee. This questionnaire was developed and used at the Queen Elizabeth Hospital in Barbados at 2003. Permission was obtained from the principal investigator to use it for the purpose of this study.[10] Minor modifications were done to the questionnaire in order to make it more culturally and religiously appropriate. The final instrument was discussed with seven senior consultants, who specialised in family and community medicine, obstetrics and gynaecology, as well as in foetal medicine. A pilot study was conducted using a selected group of residents; the questionnaires were then completed and returned with the participants' comments included.

The questionnaire consisted of three main sections. The first part dealt with demographics such as residency level, age, gender, duration of work experience, and the frequency of encountering ethical and legal problems during practice. The second section was about the importance of knowledge relating to ethics, work-related legalities, and the need to consult with others regarding such problems. Additionally, the main sources of ethics and law were also examined, along with the existence and role of the institutional ethics committee.

In the last section of the questionnaire, the respondents were asked to answer questions on common medical ethical issues such as if either they agreed or disagreed with statements concerning ethical conduct towards patient autonomy as well maintaining of patient confidentiality. They have also questioned on matters such consent taken in different ages, informing relatives about various patient conditions, informing patients about the occurrence of medical errors, as well as how they treated with regard to treating patients who behave violently. The attitudes of doctors towards abortion as well as to their patients' religious beliefs, were also evaluated. This section was presented on a Likert

scale ranging from 1 to 5 (1 - strongly disagree, 2 - disagree, 3 - not sure, 4 - agree and 5 - strongly agree).

The questionnaire contained a cover page which explained the objectives and purpose of this study. 256 questionnaires were distributed manually to residents in different training centres during December 2016, of these questionnaires 208 were returned. All the data obtained was dealt with the highest level of confidentiality.

Statistical Analysis

The data was analysed using (SPSS) version 22 software. Descriptive analysis was done for all data collated; the responses toward practical ethical issues were subsequently compared between male and female participants, and different levels of residency using chi-square testing. A binomial test was also performed in order to compare the proportions of optimal and non-optimal answers for the total number of answers submitted. Finally, an ANOVA and student t-test were used to measure the total score based on various values. The scores reversed for several questions based on optimal answers. Result was considered significant if P < 0.05

RESULTS

Among the 256 distributed questionnaires, 208 subjects returned the completed questionnaires resulting in a response rate of 81.25 %. The participants were in different levels of residency, Level 1 "R1" = 74 (34.6 %), Level 2 "R2" = 54 (26.0 %), Level 3 "R3" = 46 (22.1 %), and Level 4 "R4" = 36 (17.3 %). In this study, the number of males who took part totalled to 114 (54.8 %), whilst females represented 94 (45.2 %) of the study sample. Out of these participants, 87.0 % were at the age of ≤ 30 years, whilst 13 % were of > 30 years old. The majority of these individuals had accrued work experience of ≤ 5 years (85.6 %), whilst the rest (14.4 %) demonstrated work experience > 5 years.

Out of all the trainees, 88.0 % agreed that a knowledge of ethics is important. Only one participant responded that this knowledge was "not at all important''. Of all residents, 46.2 % thought that they possessed an 'average' knowledge of the law related to their work, and finally 33.2 % had little comprehension of ethics.

More than half of the respondents (53.8 %) knew about the existence of an ethics committee at their workplace. However, a small proportion (5.8 %) of the respondents had no knowledge of the existence of an ethics committee within their institution. Generally speaking, the trainees were aware of the role of an ethics committee.

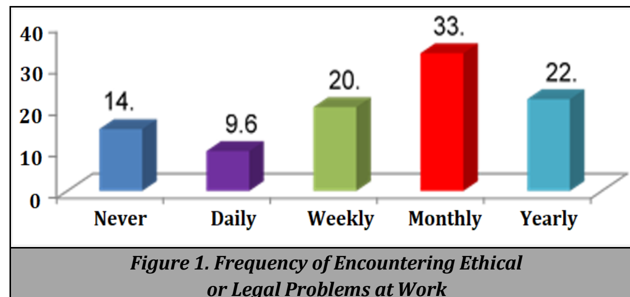

Figure 1. Frequency of Encountering Ethical or Legal Problems at Work

Source	Source of Knowledge of Medical ethics Number (%)	Source of Knowledge of Law Pertaining to Healthcare Number (%)
During training	148 (71.2 %)	126 (60.6 %)
Experience at work (before training)	107 (51.4 %)	95 (45.7 %)
Lecture / Seminars	120 (57.7 %)	79 (38.0 %)
Individual / Self-directed learning	48 (23.1 %)	32 (15.4 %)
Other (Internet, newspapers etc.)	27 (13.0 %)	29 (13.9 %)

Table 1. Sources of Knowledge of Medical Ethics and Law Pertaining to Healthcare

Whom to Consult	Preference in Consulting on an Ethical Problem N (%)	Preference in Consulting on a Legal Problem N (%)
A colleague	98 (47.1 %)	94 (45.2 %)
Direct supervisor	161 (77.4 %)	136 (65.4 %)
The head of department	54 (26.0 %)	58 (27.9 %)
The chief of medical staff	25 (12.0 %)	22 (10.6 %)
The hospital administrator	15 (7.2 %)	11 (5.3 %)
The ethics committee	43 (20.7 %)	38 (18.3 %)
A professional association / insurance company	13 (6.3 %)	13 (6.3 %)
Close friend / family	40 (19.2 %)	43 (20.7 %)
Lawyer	21 (10.1 %)	27 (12.98 %)

Table 2. Preferences in Consulting on an Ethical Problem and a Legal Problem

Ethics Codes (Source)	Knowledge of the Main Content	For all Respondents N (%)	P-Value	R1 N (%)	R2 N (%)	R3 N (%)	R4 N (%)	P-Value
Saudi law of practicing healthcare professions	Yes	79 (38.0 %)	0.001	26 (36.1)	18 (33.3)	22 (47.8)	13 (36.1)	0.467
	No	129 (62.0 %)		46 (63.9)	36 (66.7)	24 (52.2)	23 (63.9)	
The hippocratic oath	Yes	75 (36.1 %)	P < 0.0001	26 (36.1)	18 (33.3)	18 (39.1)	03 (36.1)	0.948
	No	133 (63.9 %)		46 (63.9)	36 (66.7)	28 (60.9)	23 (63.9)	
The Nuremberg code	Yes	24 (11.5 %)	P < 0.0001	6 (8.3)	5 (9.3)	6 (13.0)	07 (19.4)	0.347
	No	184 (88.5 %)		66 (91.7)	49 (90.7)	40 (87.0)	29 (80.6)	

Table 3. Knowing the Main Content of Codes

Instrument	Ethics Useful (%)	Ethics Not Useful (%)	Ethics No Experience (%)	Law Useful (%)	Law Not Useful (%)	Law No Experience (%)
Journals	103 (49.5 %)	25 (12.0 %)	80 (38.5 %)	110 (52.9 %)	31 (14.9 %)	67 (32.2 %)
Books	127 (61.0 %)	33 (15.9 %)	48 (23.1 %)	101 (48.5 %)	39 (18.8 %)	68 (32.7 %)
General texts	79 (37.9 %)	54 (26.0 %)	75 (36.1 %)	78 (37.5 %)	56 (26.9 %)	74 (35.6 %)
Media (Newspapers / TV)	113 (54.3 %)	45 (21.6 %)	50 (24.0 %)	105 (50.5 %)	50 (24.0 %)	53 (25.5 %)
Workshops	166 (79.8 %)	10 (4.8 %)	32 (15.4 %)	156 (75.0 %)	11 (5.3 %)	41 (19.7 %)
Lectures (UG / CME) *	182 (87.5 %)	11 (5.3 %)	15 (7.2 %)	164 (78.8 %)	14 (6.7 %)	30 (14.4 %)
Panel discussions	120 (57.7 %)	20 (9.6 %)	68 (32.7 %)	110 (52.9 %)	28 (13.5 %)	70 (33.7 %)
Case conferences	137 (65.9 %)	11 (5.3 %)	60 (28.8 %)	132 (63.5 %)	15 (7.2 %)	61 (29.3 %)

Table 4. Useful Sources for Learning about Medical Ethics and Law

Issue in Practice of Medical Ethics	Total of Optimal Answers		Residency Level				Gender		Age Group		Duration of Work Experience	
	N= 208 (%)	P-Value	R1 N = 74 (34.6%)	R2 N = 54 (26.0%)	R3 N= 46 (22.1%)	R4 N = 36 (17.3%)	Male N = 114 (54.8 %)	Female N = 94 (45.2 %)	≤ 30 N = 181 (87.0 %)	> 30 N =27 (13.0 %)	≤ 5 N = 178 (85.6 %)	> 5 N = 30 (14.4 %)
Ethical conduct is only important to avoid legal action.	106 (50.96 %)	0.835	36 (50.0 %)	28 (51.9%)	22 (47.8%)	20 (55.6 %)	61 (53.5 %)	45 (47.9 %)	91 (50.3 %)	15 (55.6 %)	93 (52.2 %)	13 (43.3 %)
The patient's wishes must always be adhered to.	81 (38.9 %)	0.002	26 (36.1%)	22 (40.7%)	18 (39.1%)	15 (41.7 %)	50 (43.9 %)	31 (33.0 %)	72 (39.8 %)	9 (33.3 %)	69 (38.8 %)	12 (40.0 %)
The patient should always be told if something is wrong.	142 (68.3 %)	P <0.0001	52 (72.2%)	36 (66.7%)	32 (69.6%)	22 (61.1 %)	80 (70.2 %)	62 (66.0 %)	123 (68.0 %)	19 (70.4 %)	121 (68.0 %)	21 (70.0 %)
Confidentiality cannot be kept in modern care and should be abandoned – ignored -.	136 (65.4 %)	P <0.0001	48 (66.7%)	36 (66.7%)	29 (63.0%)	23 (63.9 %)	75 (65.8 %)	61 (64.9 %)	116 (64.1 %)	20 (74.1 %)	119 (66.9 %)	17 (56.7 %)
Patients only need to consent for operations but not for tests or medications.*	139 (66.8 %)	P <0.0001	53 (73.6%)	35 (64.8%)	31 (67.4 %)	20 (55.6 %)	69 (60.5 %)*	70 (74.5 %)*	121 (66.9 %)	18 (66.7 %)	120 (67.4 %)	19 (63.3 %)
Close relatives must always be told about a patient's condition.	151 (72.6 %)	P <0.0001	50 (69.4%)	40 (74.1%)	33 (71.7 %)	28 (77.8 %)	81 (71.1 %)	70 (74.5 %)	129 (71.3 %)	22 (81.5 %)	129 (72.5 %)	22 (73.3 %)
Children (except in an emergency) should never be treated without the consent of their parents or guardians.	143 (68.8 %)	P <0.0001	48 (66.7%)	41 (75.9%)	31 (67.4 %)	23 (63.9 %)	81 (71.1 %)	62 (66.0 %)	127 (70.2 %)	16 (59.3 %)	123 (69.1 %)	20 (66.7 %)
Doctors and nurses should refuse to treat patients who behave violently.	100 (48.08 %)	0.628	34 (47.2%)	22 (40.7%)	25 (54, 3 %)	19 (52.8 %)	58 (50.9 %)	42 (44.7 %)	87 (48.1 %)	13 (48.1 %)	87 (48.9 %)	13 (43.3 %)
Pregnant her fetus malformed and completed 120 days, so she wants to perform an abortion; therefore, a doctor cannot refuse to do abortion.	65 (31.25 %)	P <0.0001	5 (34.7%)	13 (24.1%)	14 (30.4 %)	13 (36.1 %)	42 (36.8 %)	23 (24.5 %)	55 (30.4 %)	10 (37.0 %)	58 (32.6 %)	7 (23.3 %)
A patient who refuses to be treated on religious or other grounds should be told that they need to find another doctorwith their beliefs or accept the treatment offered.	83 (39.9 %)	0.004	27 (37.5%)	16 (29.6 %)	22 (47.8 %)	18 (50.0 %)	47 (71.2 %)	36 (38.3 %)	70 (38.7 %)	13 (48.1 %)	72 (40.4 %)	11 (36.7 %)

Table 5. Optimal Answers of Issues in Relation to the Practice of Medical Ethics for Different Levels of Residency, Gender, Age, and Experience

*By one-way analysis of variance (ANOVA).
**By Student t-test for two independent groups.

Issue in Practice of Medical Ethics	Gender	Disagree	Not Sure	Agree	Chi Square	P-Value
Ethical conduct is only important to avoid legal action	Male	61 (53.5 %)	22 (19.3 %)	31 (27.2 %)	0.735	0.693
	Female	45 (47.9 %)	19 (20.2 %)	30 (31.9 %)		
The patient's wishes must always be adhered to.	Male	42 (36.8 %)	22 (19.3 %)	50 (43.9 %)	4.89	0.087
	Female	33 (35.1 %)	30 (31.9 %)	31 (33.0 %)		
The patient should always be told if something is wrong.	Male	16 (14.0 %)	18 (15.8 %)	80 (70.2 %)	1.529	0.465
	Female	11 (11.7 %)	21 (22.3 %)	62 (66.0 %)		
Confidentiality cannot be kept in modern care and should be abandoned–ignored.	Male	75 (65.8 %)	29 (25.4 %)	10 (8.8 %)	0.595	0.743
	Female	61 (64.9 %)	27 (28.7 %)	6 (6.4 %)		
Patients only need to consent for operations but not for tests or medications.	Male	69 (60.5 %)	22 (19.3 %)	23 (20.2 %)	4.818	0.09
	Female	70 (74.5 %)	10 (10.6 %)	14 (14.9 %)		
Close relatives must always be told about a patient's condition.	Male	81 (71.1 %)	15 (13.2 %)	18 (15.8 %)	2.782	0.249
	Female	70 (74.5 %)	16 (17.0 %)	8 (8.5 %)		
Children (except in an emergency) should never be treated without the consent of their parents or guardians.	Male	20 (17.5 %)	13 (11.4 %)	81 (71.1 %)	0.997	0.608
	Female	17 (18.1 %)	15 (16.0 %)	62 (66.0 %)		
Doctors and nurses should refuse to treat patients who behave violently.	Male	58 (50.9 %)	23 (20.2 %)	33 (28.9 %)	7.238	0.027
	Female	42 (44.7 %)	34 (36.2 %)	18 (19.1 %)		
Pregnant malformed fetus and completed 120 days, so she wants to perform an abortion; therefore, a doctor cannot refuse to do abortion.	Male	42 (36.8 %)	45 (39.5 %)	27 (23.7 %)	6.784	0.034
	Female	23 (24.5 %)	54 (57.4 %)	17 (18.1 %)		
A patient who refuses to be treated on religious or other grounds should be told that they need to find another doctor with their beliefs or accept the treatment offered.	Male	47 (41.2 %)	39 (34.2 %)	28 (24.6 %)	0.187	0.911
	Female	36 (38.3 %)	34 (36.2 %)	24 (25.5 %)		

Table 6. Responses of Respondents to Ethical Problems Based on Gender

		N	Mean ± SD	Median	Range	95 % CI for Mean		P-Value	Total Score	
						Lower Bound	Upper Bound		≤ 35 (70 %)	> 35 (70 %)
Levels	R1	72	35.35 ± 4.76	35.5	24 – 46	34.23	36.47	0.840*	36 (50.0 %)	36 (50.0 %)
	R2	54	34.67 ± 4.23	35.0	26 – 44	33.51	35.82		31 (57.4 %)	23 (42.6 %)
	R3	46	34.89 ± 4.23	34.0	29 – 47	33.63	36.15		25 (54.3 %)	21 (45.7 %)
	R4	36	34.81 ± 4.28	36.0	22 - 41	33.36	36.25		16 (44.4 %)	20 (55.6 %)
Gender	Male	114	35.05 ± 4.52	35.0	24 – 47	34.21	35.89	0.783**	60 (52.6 %)	54 (47.4 %)
	Female	94	34.88 ± 4.28	35.0	22 – 46	34.01	35.76		48 (51.1 %)	46 (48.9 %)
Age groups	≤ 30 y	181	34.85 ± 4.50	35.0	22 – 47	34.19	35.51	0.290**	93 (51.4 %)	88 (48.6 %)
	> 30 y	27	35.81 ± 3.66	35.0	30 – 44	34.37	37.26		15 (55.6 %)	12 (44.4 %)
Experience	≤ 5 y	178	35.12 ± 4.37	35.5	22 – 47	34.47	35.76	0.259**	89 (50.0 %)	89 (50.0 %)
	> 5 y	30	34.13 ± 4.61	34.0	25 – 44	32.41	35.86		19 (63.3 %)	11 (36.7 %)

Table 7. Total Scores for Responses to Ethical Problems

Figure 1. Shows the frequency of encountering ethical and legal problems by residents during the course of their work. Most of the trainees encountered these problems on a monthly or yearly basis.

Table 1 displays various sources of knowledge relating to medical ethics and law pertaining to healthcare for residents. 65.4 % acquired their knowledge of ethics from multiple sources, whilst more than half depended on a single source to obtain their knowledge of law in the workplace. The most common source of knowledge of medical ethics and law of work amongst the trainees was found to be "during training" in both medical ethics (71.2 %) and law of work (60.6 %).

Table 2 shows the different preferences of the residents when seeking support in the face of an ethical or legal challenge in the workplace. The majority of the participants surveyed reported that they would approach their immediate supervisor in the case of an ethical issue (77.4 %) whilst (65.4 %) said they would approach their supervisor if they were facing a legal problem.

Table 3 displays the percentage of respondents who were aware of the main content of the code of ethics. Significantly, only 38.0 % of participants had knowledge about a Saudi law of practicing healthcare professions. Meanwhile, 63.9 % were unaware of the content of Hippocratic Code while 88.5 % did not know the content of the Nuremberg Code. Finally, 93.8 % were unaware of the content of the Helsinki Declaration. The differences proved to be statistically significant amongst all respondents when binomial tests were applied. Also, there was found to be no significant variation between the different levels of residency.

Table 4 illustrates the trainees' perception about the usefulness of different sources in learning about medical ethics and law. Lectures, workshops, and case conferences seemed to be the useful learning tools among resident doctors. Table 5 summarises the responses of the trainees toward various aspects of ethical issues based on optimal answers for different residency level, gender, age, work experience, and a total of optimal answers. The following shows the percentages of total optimal answers. 50.96 % of the respondents "disagreed" that ethical conduct is only important in order to avoid legal action being taken. Also, 48.08 % "disagreed" that doctors and nurses should refuse to treat patients who behave violently towards them or others. These weren't statistically significant.

68.3 % of respondents "agreed" that the patient should always be told if something was wrong. 66.8 % "disagreed"

with the statement that consent is needed for surgical operations only. Meanwhile, 68.8 % "agreed" that they should never treat children without the consent of their parents or guardians except in an emergency. Incidentally, 65.4 % "disagreed" with the statement that confidentiality cannot be maintained in modern of care. Finally, 72.6 % "disagreed" with the need to inform close relatives about the patient's condition. All of these responses were statistically significant (P < 0.0001) according to the binomial tests that were performed.

Only 38.9 % "agreed" that the patient's wishes must always adhere to (P = 0.002). 31.25 % "disagreed" about performing an abortion for malformed foetus after 120 days of gestational age (P < 0.0001). On aspect of asking the patient to find another doctor if he refused to be treated on the religious or other ground, only 39.9 % responded as "disagree" (P = 0.004).

There was no significant variation between respondents based on residency level, gender, age, and duration of work experience, except in asking the patients' consent only for operations. Incidentally, 74.5 % of females disagreed with this statement, while 60.5 % of male disagreed (P = 0.034).

Table 6 shows the responses of residents to ethical issues and compared that between genders. Significantly, 50.9 % of male respondents disagreed with the statement that patients who behave violently should not be treated. Whereas, only 44.7 % of females disagreed with such a statement. When asked about performing an abortion on a malformed foetus which had a gestational age of 120 days or more, the majority of females (57.4 %) responded by saying that they were unsure of whether the procedure should be carried out or not. Other variable shows no significant variation between male and female. When comparing the residency levels with the Likert scale responses, no statistical significance could be observed; hence, the table was omitted from the data presented in this paper in order to reduce the number of tables. Table 7 presents the total scores of answers in relation to ethical problems, and compares the results based on residency levels, gender, age, and experience. The differences do not appear to be statistically significant. The maximum score for a single response is 50 whilst the minimum score is 10. The study considered a good score as more than 35 which was equal to > 70 % of the maximum score. 108 (51.92 %) residents got a score ≤ 35. The mean of score for all respondents was 34.98

DISCUSSION

This is probably the first study conducted to explore the knowledge, attitude, and practice toward medical ethics among physicians in Saudi Arabia its neighbouring Gulf Cooperation Council countries.

Most of the residents responded positively to the importance of possessing a sound knowledge of medical ethics. This is similar to two studies conducted in Barbados, where the respondents agreed on the importance of such a topic.[10,11] This agreement about the importance gives an impression that the residents are ready to learn it.

A junior physician is usually faced with ethical or legal problems on a daily basis, perhaps due to having more frequent contact with patients.[10,12,13] In this study, the trainees encountered ethical issues on a monthly or yearly basis. This relatively low frequency of facing ethical or legal issues may potentially be due to an unawareness of such issues. Hence, the residents should be mentored by a senior member of staff in order to make them more aware of any problems that may arise.[10]

The presence of an on-campus ethics committee was unknown to nearly half of the respondents surveyed. The awareness of the existence of an ethics committee was shown to vary from place to place. Our study was similar to other studies conducted in Islamabad and Manipur that show a high percentage of respondents being unaware of the fact that such a facility existed.[12,14] It is important to make sure that hospital staff are aware of any ethics committee as well as the role it plays in the daily running of the hospital. Moreover, it would be useful if members of the hospital administration could raise awareness of such a provision. In South India it was found that a high percentage of respondents were aware of the presence of an ethics committee.[13]

The respondents were found to have obtained their knowledge of ethics from different sources. Most of them depended on postgraduate training to get this knowledge. The residency program provided only a few hours of lectures pertaining to medical ethics during the academic year. It is interesting to note that a small percentage of the trainees had obtained their knowledge through self-learning (i.e., through individual reading, the Internet, and through newspaper articles, etc.). Another study in Nigeria shows that half of the respondents there had upgraded their knowledge via self-learning.[15] This is most likely the result of the residents' focusing their attention on developing their clinical knowledge and skills rather than focusing on theoretical knowledge alone.

A significant number of trainees did not read the content of Saudi law of practicing healthcare professions. This is similar to the response of Pakistani physicians in relation to their National Code of Ethics, but is dissimilar to the results obtained in the Nigerian study where 69 % of trainees were found to have read the relevant information on ethics.[15,16] Further results depict that two thirds of respondents were unaware of the Hippocratic Oath unlike the physicians in a study conducted in Nepal, where 66.9 % of respondents were familiar with the content of the Hippocratic Oath.[17] Moreover, study that was carried out at Georgetown University in 1995 revealed that a high percentage of respondents were unaware of the content of the Hippocratic Oath due to an inadequate education in medical ethics that indicates the poor knowledge of our residents perhaps due to a defect in education.[18] Also, our study has highlighted the fact that Saudi trainee residents seem to have a very poor knowledge of the Nuremberg Code as well as the Helsinki Declaration. However, this result is similar to other studies carried out in different parts of the world which reveal that, in general, there is a paucity of knowledge concerning the ethics of research.[10,12,17]

The study also revealed that the majority of the participants who were surveyed stated that they preferred to consult their supervisor or colleague regarding ethical and legal issues. Interestingly, however, only about a quarter of respondents were willing to consult the head of a department in relation to these issues which clearly shows that the trainees were not eager to raise such issues at higher management levels even within the department. In general, the healthcare providers preferred to settle any ethical and

legal issues at the department level rather than raise it to higher levels.[10,12,17]

Furthermore, the study showed that the majority of trainees responded well with regard to informing the patient about medical errors, confidentiality, obtaining patient consent, informing close relatives about a patient's condition, and treating children without prior consent from their parents or guardians. Female doctors were found to be more aware of the need to obtain consent than males. Approximately, half of all respondents thought that ethical conduct was only important in order to avoid legal action being taken. Although, it is a well-established fact that ethics and an ethical environment play a significant role in improving the quality of healthcare facilities and effectiveness within the workplace.[19]

Incidentally, two-thirds of the responses that were obtained from the resident doctors demonstrated that patients' wishes may not always be respected. This response signals a poor attitude towards patient autonomy. Almost identical results in India reported that physicians there had a poor knowledge of the basic principles of medical ethics.[20,21]

In our study, more than half of respondents were not prepared to treat a violent patient. This response is incompatible with medical ethics. The physician should rethink the situation before refusing to treat the patient, as he or she may well be able to manage their violent behaviour. Additionally, 60.1 % of trainees believed that they had the right to refuse to treat a patient who refuses a treatment plan based on their religious beliefs. This is not consistent, however, with the principles of healthcare ethics. These responses again highlight the lack of trainees' knowledge regarding patient's rights.

Most of the residents were willing to perform an abortion for a malformed fetus after completing 120 days of gestation. In Islam, there are specific rules for abortion, and this topic has been subject to continuous debate over the last few decades. In 2011, The Standing Committee for Scientific Research and for the Issuing of Edicts, Preaching, and Guidance in Saudi Arabia issued an edict (Fatwa no. 240 dated 16 January 2011) which permits abortion in certain very limited circumstances. The committee ruling states that the abortion of a malformed fetus after completing 120 days of gestation is permissible if the pregnancy would cause death to the mother.[9] The majority of female residents were unsure about what decision to take under such circumstances. Despite this fact, however, our culture prefers the services of a female doctor over a male doctor in the case of obstetrics and gynaecology.

Not surprisingly, the level of experience of the physicians played a significant role in dealing with ethical dilemmas.[22.23] Our study also indicated that no significant difference amongst trainees could be found based on the number of years of experience possessed by them. This could be due to the inadequate provision of training in medical ethics from the very outset of a trainee career.

CONCLUSIONS

Our study revealed that the knowledge, attitude, and practice of trainee residents towards medical ethics were inadequate. However, there is a general awareness of the importance of medical ethics. Essentially, then, this paper recommends that all future residency curricula should incorporate structured course material in medical ethics for all trainees in order to execute a more professional healthcare service.

Limitations

This study was conducted by self-reporting only. It aimed to provide an insight into the training programs of residents in Riyadh alone. The different level of physicians and other health professionals on a country-wide basis were not assessed.

Recommendations

Further studies are needed in order to assess the perception of medical ethics amongst health professionals on a national level and also, on common issues that are investigated by the health legal committee in the ministry of health. Further studies are needed on random samples of medical records for various patients to identify common ethical and legal issues that are done via healthcare providers.

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REFERENCES

[1] Williams JR. Medical ethics manual. 3rd edn. World Medical Association 2015.
[2] Manson H. The need for medical ethics education in family medicine training. Fam Med 2008;40(9):658-64.
[3] Pauls M. Teaching and evaluation of ethics and professionalism in Canadian family medicine residency programs. Can Fam Physician 2012;58(12):e751-6.
[4] Byrne J, Straub H, DiGiovanni L, et al. Evaluation of ethics education in obstetrics and gynecology residency programs. Am J Obstet Gynecol 2015;212(3):397.e1-8.
[5] Manson HM, Satin D, Nelson V, et al. Ethics education in family medicine training in the united states: a national survey. Fam Med 2013;46(1)28-35.
[6] Chang HJ, Lee YM, Lee YH, et al. Investigation of unethical and unprofessional behavior in Korean residency training. Teach Learn Med 2015;27(4):370-8.
[7] Alkabba AF, Hussein GMA, Albar AA, et al. The major medical ethical challenges facing the public and healthcare providers in Saudi Arabia. J Family Community Med 2012;19(1):1-6.
[8] Mohammed AM, Ghanem MA, Kassem A. Knowledge, perceptions and practices towards medical ethics among physician residents of university of Alexandria hospitals, Egypt. East Mediterr Health J 2012;18(9):935-45.
[9] Al-Matary A, Ali J. Controversies and considerations regarding the termination of pregnancy for foetal anomalies in Islam. BMC Med Ethics 2014;15:10.
[10] Hariharan S, Jonnalagadda R, Walrond E, et al. Knowledge, attitudes and practice of healthcare ethics and law among doctors and nurses in Barbados. BMC Med Ethics 2006;7:E7.
[11] Walrond ER, Jonnalagadda R, Hariharan S, et al. Knowledge, attitudes and practice of medical students of

at Cave Hill campus in relation to ethics and law in healthcare. West Indian Med J 2006;55(1):42-7.
[12] Khan AM, Taj R, Kazmi SF. Attitude, perception and knowledge of bioethics among physicians and post graduate trainees of hospitals of Islamabad and adjacent regions. Golbal Bioethics Enquiry 2015;1:23-31.
[13] Janakiram C, Gardens SJ. Knowledge, attitudes and practices related to healthcare ethics among medical and dental postgraduate students in south India. Indian J Med Ethics 2014;11(2):99-104.
[14] Borgen A, Rajkumari B, Laishram J, et al. Knowledge and attitudes of doctors on medical ethics in a teaching hospital, Manipur. Indian J Med Ethics 2009;6(4):194-7.
[15] Fadare JO, Desalu OO, Jemilohun AC, et al. Knowledge of medical ethics among Nigerian medical doctors. Niger Med J 2012;53(4):226-30.
[16] Shiraz B, Shamim MS, Shamim MS, et al. Medical ethics in surgical wards: knowledge, attitude and practice of surgical team members in Karachi. Indian J Med Ethic 2005;2(3):94-6.
[17] Adhikari S, Paudel K, Aro AR, et al. Knowledge, attitude and practice of healthcare ethics among resident doctors and ward nurses from a resource poor setting, Nepal. BMC Med Ethics 2016;17(1):68.
[18] Sulmasy DP, Dwyer M, Marx E. Knowledge, confidence and attitudes regarding medical ethics: how do faculty and housestaff compare? Acad Med 1995;70(11):1038-40.
[19] McDaniel C, Veledar E, LeConte S, et al. Ethical environment, healthcare work and patient outcomes. Am J Bioeth 2006;6(5):W17-29.
[20] Tahira QA, Lodhi S, Haider T, et al. The study of knowledge, attitude and practice of medical law and ethics among doctors in a tertiary care hospital. Annals of King Edward Medical University 2013;19(1):55.
[21] Bhardwaj A, Chopra M, Mithra P, et al. Current status of knowledge, attitudes and practices towards healthcare ethics among doctors and nurses from northern India-a multicenter study. Pravara Med Rev 2014;6(2):4-8.
[22] Anup N, Kumawat H, Biswas G, et al. Knowledge, attitude & practices regarding ethics & law amongst medical and dental professionals in Rajasthan-a questionnaire study. IOSR Journal of Dental and Medical Sciences 2014;13(5):102-9.
[23] Klemenc-Ketis Z, Kersnik J, Ojstersek J. Perceived difficulties in managing ethical problems in family medicine practice in Slovenia: cross-sectional study. Croat Med J 2008;49(6):799-806.