

AWARENESS OF MEDICAL ETHICS AMONG UNDERGRADUATE MEDICAL STUDENTS IN A PRIVATE MEDICAL SCHOOL: A CROSS SECTIONAL SURVEY

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ABSTRACT

Objective: To identify the gaps in knowledge of medical ethics among undergraduates.

Study Design: An observational cross-sectional study.

Place and Duration of Study: The study was conducted at CMH Lahore medical College, from Aug 2017 to Mar 2018.

Methodology: Students from 3rd to 5th year MBBS were included in this study. Sample size calculated was 272, non-probability consecutive sampling technique was used. To collect the data, a 25 item questionnaire was developed following An International Association for Medical Education (AMEE) guide line number 87. Five point likert scale was used as well as categorical yes/no questions were asked to assess the responses.

Results: Data were collected from 3rd year to 5th year MBBS undergraduates. Response rate was 82.72%. There was almost equal gender distribution; 51.1 % were male and 48.9% were female. Most of the respondents, 95.6% and 95.1% were of the view that medical ethics are important and should be taught at undergraduate level respectively. Majority 72.4% said Hippocrates declaration oath was not taught adequately. Only 42% and 46% were aware of medical ethics regarding publication and organ transplant respectively. Total score was calculated which showed that knowledge of medical ethics was highest among 3rd year and lowest among 4th year medical students.

Conclusion: Important ethical issues are being neglected in our current curriculum.

Keywords: An International Association for Medical Education (AMEE), Medical Ethics, Undergraduate student.

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INTRODUCTION

Ethics is defined as the science of ideal human character or moral obligation¹, which is neither culturally irrelative nor a common sense, it is an art & a vital professional skill that increases the practical credibility². Despite of the fact that enormous advancement has occurred in Medical Sciences, many ethical health issues has also arisen & professional thoughtfulness with reference to codes of Medical Ethics is required to deal with them. Even though ethical codes and regulations has been set, reports of unethical behavior by interneers and physicians with patients and colleagues are common³. We need to know and assess the prevailing moral attitude among undergraduates as it was observed in a study

conducted by Imran *et al* that graduates have less awareness of medical ethics and code of Pakistan Medical and Dental Council⁴. Moreover the progress over the years for awarness in medical ethics is stagnant⁵. Moral qualities of medical professionalism have a strong bond with ethical teaching. The practical application of ethical norms in clinical settings require great skill and aptitude but are we really teaching and inculcating medical ethics in undergraduates?

In 1993, Mitchell proposed an idea that teaching of ethical reasoning should be a mandatory part of clinical cases. Basic medical ethical lessons should be in the curriculum to provide the conceptual and moral reasoning, also enhancing inter-actional abilites related to patient and their problems in health care facilites. Clinically oriented approaches and their effectivities in medical ethics teaching is well documented with ethical

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conflicts resolution⁶. At the start of the carrier its teaching makes a sound foundation. Walrond in 2003 found in a study conducted in Barbados that the majority of students knew the significance of medical ethics in their professional life⁷. A study conducted at Karachi in 2004 by Shiraz *et al* concluded that most surgeons did not consider the teaching of ethics mandatory at an undergraduate level⁵. Lack of awareness of medical ethics is the root cause of various issues we face today in the society, particularly highlighted by mainstream media. Moreover, It has been seen that students and medical practitioners sometimes have unethical behaviour with their patient and even sometimes with colleagues².

Teaching and inculcating medical ethics in the curriculum should be the foremost concern of governing medical council. PMDC approved a draft in August 2002 regarding teaching of medical ethics at all levels but practical steps have not been taken since⁸. There have been many studies highlighting the significance of including medical ethics in curricula⁹. Designing the curriculum to teach medical ethics is one of the biggest challenges. In order to devise homogenous curriculum, connected and relevant to each regional culture, the primary step is to know the existing basic knowledge and approaches of medical practitioners in that particular culture. The results of literature review elicited that although now ethics has an acknowledged place in the syllabus course of undergraduates, additional efforts should be made to warrant that this content is taught and being assessed properly to optimize the best outcome for the health care professional.

Perception, knowledge and attitude towards learning medical ethics will help us to inculcate professionalism by updating the present curriculum at the undergraduate level so that our students can meet the rising modern standards of healthcare and compete at International level with sound knowledge of medical ethics.

The main aim of this study was to explore the knowledge, attitude and concepts of medical

ethics in students of CMH Lahore medical college.

METHODOLOGY

This cross-sectional study was conducted among undergraduate (3rd to 5th year) medical students of CMH Lahore Medical College from August 2017 to March 2018. The sample size was estimated to be 272 using 5% margin of error and 95% confidence interval. Questionnaires were distributed to 272 students out of which 225 students returned the questionnaire with response rate of 82.72%. Non-probability consecutive sampling technique was used. Ethical Declaration followed by Ethical Review Committee approval was taken. The instrument for data collection was a self-generated 25 item questionnaire, with a five point Likert scale. It was developed following AMEE guideline No. 87¹⁰. Initially the questionnaire was discussed with faculty members and medical educationists. To assess the clarity, interpretation and relevance expert validation was conducted with cognitive interviews and respondent's input was incorporated within the questionnaire. Double barrel and double negative statements were avoided. Validation was done by piloting and pre-testing it on 20 students. Reliability of the questionnaire was checked with a Cronbach's alpha which came out to be 0.83.

The initial part of the questionnaire consisted of demographics such as age, gender, year of education. The second part of questionnaire comprises of questions regarding the potential contributors of knowledge towards ethics, importance of knowledge and teaching of ethics at undergraduate level. Third part of the questionnaire dealt with the questions that how often ethical or legal problems were encountered, the occurrence and role of an ethics committee in the college, and on attitudes to patient autonomy, confidentiality, informed consent among adults and children, end of life care, abortion, religion, the treatment of violent patients, belief and attitudes towards various ethical situations which a doctor can come across during practice.

The questionnaires were given at the end of a lecture after taking informed consent from the concerned department and students. All data were analyzed using SPSS version 20 (IBM, Chicago, IL). Quantitative variables were presen-

standing of medical ethics 174 (77.30%). While a significant majority disagreed that medical ethics books [165 (73.30%)], PMDC regulations [193 (85.8%)], journals [191 (84.90%)], film library [187 (83.1%)], workshops are provided by

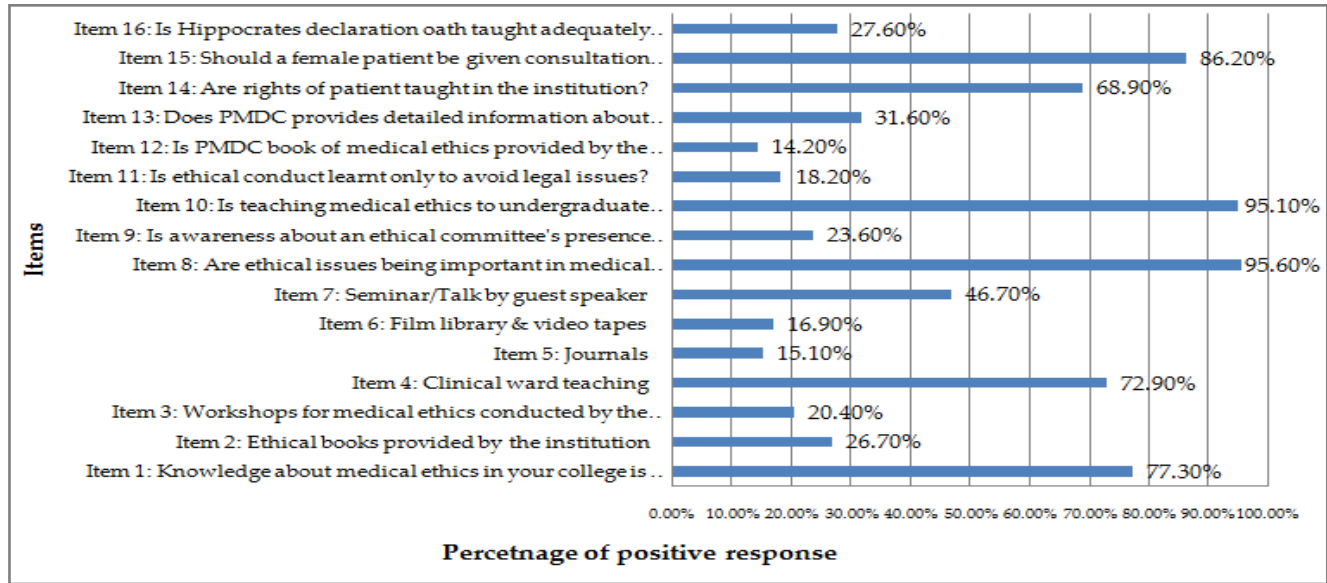


Figure-1: Frequency of responses to provisions of ethical resources by the institute.

ted as mean ± standard deviation (SD) and categorical variables as frequencies and percentages. One sample chi-square test was utilized to compare the differences in proportions of responses on likert scale items or binary variables. Pearson chi-square was run to check associations between two categorical variables having adequate expected count of response distribution across all cells (>5). Independent sample t-test was run to check differences in mean scores on the ethics scale among binary groups. One-way analysis of variance with post-hoc least statistical difference test was run to check differences in mean scores of ethics scale among participants belonging to difference years of study ($p \leq 0.05$).

RESULTS

There were a total of 225 respondents with a mean age of 22.49 ± 1.17 years. There were 115 (51.10%) males and 110 (48.9%). A Cronbach's alpha value of 0.93 for Ethics Scale revealed excellent internal consistency. A significant majority of respondents agreed that class lectures and clinical ward teaching contribute to their under-

institution [179 (79.6%)], and rest were divided in response to provision of seminars by guest speakers. Most of the medical students agreed on the importance of medical ethics [215 (95.60%)]

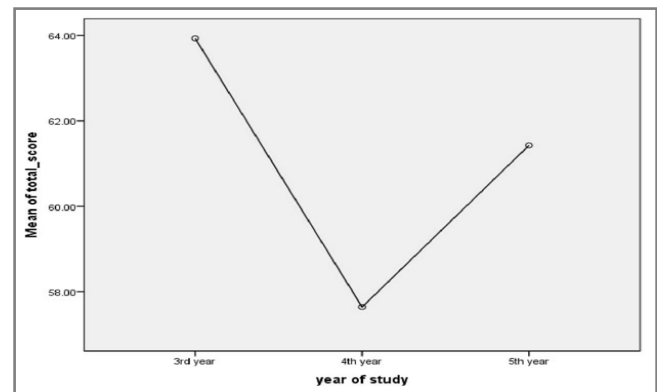


Figure-2: Means plot exhibiting group-wise comparisons among different years of study (n=225).

and its teaching [214 (95.1%)], however, most disagreed on the notion that Hippocrates is taught in medical school in its true spirit [163 (72.40%)]. Figure-1 shows the frequency of positive responses regarding ethical resources.

There was no significant differences in mean scores of ethics scale among males and females, status of provision of books, films, PMDC regulations and journals on ethics (table-I). Those who agreed that PMDC provided detailed information on medical ethics, rights of patients, Hippocrates' oath and agree with ethical rights of female patients being taught in their institution scored significantly higher on ethics scale.

One way analysis of variance (ANOVA) test

revealed significant differences among respondents belonging to different years of study, on mean scores of ethics scale. Post-hoc Least Statistical Difference (LSD) test revealed that 3rd year students scored significantly higher on ethics scale as compared to 4th year students (table-II & III).

Responses to individual items of ethics scale revealed that there was no significant variation in responses to discussion of ethical and social

Table-I: Group differences on total scores on scale (n=225).

Statement	Subcategory	Total Score	t-statistic
		Mean ± SD	
Gender	Male	61.53 ± 13.35	0.64*
	Female	60.45 ± 11.82	
Knowledge about medical ethics in your college is contributed by lecture classes in your medical college	Yes	61.88 ± 12.75	1.94*
	No	58.00 ± 11.72	
Ethical books provided by the institution	Yes	63.17 ± 12.66	1.56*
	No	60.21 ± 12.53	
Workshops for medical ethics conducted by the college	Yes	64.35 ± 14.42	2.03**
	No	60.14 ± 11.99	
Clinical ward teaching	Yes	62.47 ± 12.75	2.92***
	No	57.05 ± 11.39	
Journals	Yes	59.76 ± 14.75	-0.62*
	No	61.22 ± 12.22	
Film library & video tapes	Yes	58.89 ± 15.58	-1.13*
	No	61.43 ± 11.92	
Seminar/Talk by guest speaker	Yes	63.09 ± 13.02	2.35**
	No	59.17 ± 11.99	
Are ethical issues being important in medical profession?	Yes	61.00 ± 12.72	-0.03*
	No	61.10 ± 10.35	
Is awareness about an ethical committee's presence in the institution widespread among students?	Yes	61.83 ± 14.64	0.55*
	No	60.74 ± 11.95	
Is teaching of medical ethics to undergraduate necessary?	Yes	61.31 ± 12.20	1.11*
	No	55.00 ± 18.60	
Is ethical conduct learnt only to avoid legal issues?	Yes	57.88 ± 16.58	-1.40*
	No	61.70 ± 11.48	
Is PMDC book of medical ethics provided by the institution?	Yes	61.16 ± 12.83	0.08*
	No	60.97 ± 12.60	
Does PMDC provides detailed information about medical ethics in the form of code of medical ethics?	Yes	63.75 ± 12.08	2.24**
	No	59.73 ± 12.68	
Are rights of patient taught in the institution?	Yes	63.55 ± 11.72	4.72****
	No	55.36 ± 12.74	
Should a female patient be given consultation either by a female or shall be examined in the presence of a female attendant by a male doctor?	Yes	61.96 ± 12.09	2.92***
	No	54.97 ± 14.26	
Is Hippocrates declaration oath taught adequately in clinical years of medical college?	Yes	64.47 ± 13.31	2.58**
	No	59.68 ± 12.11	

*p>0.05, **p<0.05, ***p<0.01, ****p<0.001

issues of a patient during clinical round ($p>0.05$). A significant majority disagreed with the statement pertaining to the choice of patients having right to choose a doctor of their faith [147 (65.3%)], and refusal of treatment to violent patients [157 (69.7%)] and disfavored physician assisted suicide [158 (70.2%)]. They denied being

Table-II: One-Way ANOVA exhibiting differences in mean scores on ethics scale among respondents belonging to different years of study (n=225).

	Mean Square	F	p-value
Between Groups	752.853	4.902	0.008
Within Groups	153.578		

aware of basic ethics of organ transplant [105 (46.7%)], termination of pregnancies (80.4%) and dealing with pharmaceutical companies [108 (48.4%)]. A major percentage disagreed that PMDC code of medical ethics [129 (57.3%)] and ethical aspects of research are taught in their institute [98 (43.6%)]. A high percentage of respondents agreed with breaking patient's

paratively, a higher percentage of third year students agreed that PMDC provides detailed information regarding medical ethics and that, patients' rights are taught in their institutions. Final year medical students least endorsed these items positively. No significant association was found between year of study and rest of the items on the ethics scale.

DISCUSSION

This study gave us insight about knowledge of medical undergraduates regarding medical ethics. Majority of the students were unaware of the medical ethics, 3rd year had the most knowledge as compared to the 4th and 5th year. It was observed that the 3rd year had behavioral sciences as a subject, which was integral part of the syllabus and professional examination therefore they were the most knowledgeable of all. While in senior classes students got training in clinical skills but were not enforced to practice medical ethics during patient encounter which led to a decrease score on ethics scale. Most common

Table-III: Least statistical difference test (LSD) exhibiting group-wise comparisons among different years of study (n=225).

Year of study	Year of study	Mean Difference	Std. Error	p-value	95% Confidence Interval	
					Lower Bound	Upper Bound
3rd year	4th year	6.29333*	2.02371	0.002	2.3052	10.2815
	5th year	2.50667	2.02371	0.217	-1.4815	6.4948
4th year	3rd year	-6.29333*	2.02371	0.002	-10.2815	-2.3052
	5th year	-3.78667	2.02371	0.063	-7.7748	0.2015
5th year	3rd year	-2.50667	2.02371	0.217	-6.4948	1.4815
	4th year	3.78667	2.02371	0.063	-0.2015	7.7748

*The mean difference is significant at the 0.05 level.

confidentiality if their health is in danger [154 (68.4%)]. And a majority knew the aspects of professional negligence [136 (60.4%)] and informed consent [181 (80.4%)]. A high percentage did not agree with the statement that doctors should respect patient's opinion regarding treatment (61.3%), however, they should not withhold information if treatment is faulty (70%).

A higher percentage of third year students agreed that knowledge of medical ethics were contributed by class lectures, provisions of books on ethics and seminars by guest speakers. Com-

source of knowledge was lectures, clinical ward teaching and seminars. These results were in concordance with studies from all over the world¹¹⁻¹³. Highlighting the importance of medical education, majority of the students at CMH Lahore said that ethical issues were important as compared to a study at Cave Hill hospital where 76% said ethical issues were important⁶. Results were in concordance with the study conducted at Kathmandu, Nepal where 91.1% said ethical issues were important¹¹. Whereas in study conducted at Bijapur, Karnataka only 52.7% were of the view that medical ethics were important¹³ and similarly in

the state of west Bengal only 55.2% were in agreement with the statement that medical ethics were important¹². A vast majority of undergraduates 214 (95.1%) said that teaching medical ethics to undergraduates was necessary which is comparable to the results of a study conducted

Overall huge number of the students said that PMDC did not provide any book and similarly majority said institution did not teach any code of medical ethics. Related to the most important ethical document in medical profession Hippocrates declaration oath was not taught

Table-IV: Year-wise distribution of responses to provision of resources regarding ethics (n=225).

		Year of Study						χ^2
		3rd year		4th year		5th year		
		Count	Row n%	Count	Row n%	Count	Row n%	
Knowledge about medical ethics in your college is contributed by lecture classes in your medical college	Yes	67	38.5%	57	32.8%	50	28.7%	11.11***
	No	8	15.7%	18	35.3%	25	49.0%	
Ethical books provided by the institution	Yes	27	45.0%	22	36.7%	11	18.3%	9.14**
	No	48	29.1%	53	32.1%	64	38.8%	
Workshops for medical ethics conducted by the college	Yes	21	45.7%	13	28.3%	12	26.1%	3.99*
	No	54	30.2%	62	34.6%	63	35.2%	
Clinical ward teaching	Yes	65	39.6%	52	31.7%	47	28.7%	11.65 ²
	No	10	16.4%	23	37.7%	28	45.9%	
Journals	Yes	14	41.2%	13	38.2%	7	20.6%	2.98*
	No	61	31.9%	62	32.5%	68	35.6%	
Film library & video tapes	Yes	13	34.2%	17	44.7%	8	21.1%	3.86*
	No	62	33.2%	58	31.0%	67	35.8%	
Seminar/Talk by guest speaker	Yes	44	41.9%	35	33.3%	26	24.8%	8.68**
	No	31	25.8%	40	33.3%	49	40.8%	
Are ethical issues being important in medical profession?	Yes	72	33.5%	71	33.0%	72	33.5%	0.21*
	No	3	30.0%	4	40.0%	3	30.0%	
Is awareness about an ethical committee's presence in the institution widespread among students?	Yes	21	39.6%	17	32.1%	15	28.3%	1.38*
	No	54	31.4%	58	33.7%	60	34.9%	
Is teaching medical ethics to undergraduate necessary?	Yes	73	34.1%	71	33.2%	70	32.7%	1.34*
	No	2	18.2%	4	36.4%	5	45.5%	
Is ethical conduct learnt only to avoid legal issues?	Yes	8	19.5%	19	46.3%	14	34.1%	5.43*
	No	67	36.4%	56	30.4%	61	33.2%	
Is PMDC book of medical ethics provided by the institution?	Yes	11	34.4%	12	37.5%	9	28.1%	0.51*
	No	64	33.2%	63	32.6%	66	34.2%	
Does PMDC provides detailed information about medical ethics in the form of code of medical ethics?	Yes	34	47.9%	25	35.2%	12	16.9%	15.10***
	No	41	26.6%	50	32.5%	63	40.9%	
Are rights of patient taught in the institution?	Yes	60	38.7%	47	30.3%	48	31.0%	6.51**
	No	15	21.4%	28	40.0%	27	38.6%	
Should a female patient be given consultation either by a female or shall be examined in the presence of a female attendant by a male doctor?	Yes	63	32.5%	65	33.5%	66	34.0%	0.52*
	No	12	38.7%	10	32.3%	9	29.0%	
Is Hippocrates declaration oath taught adequately in clinical years of medical college?	Yes	25	40.3%	19	30.6%	18	29.0%	1.92*
	No	50	30.7%	56	34.4%	57	35.0%	

χ^2 : Chi-Square test of proportions; * $p > 0.05$, ** $p < 0.05$, *** $p < 0.01$

in Egypt¹⁴ and India¹⁵ where 99.2% and 99% said that it was necessary to inculcate Code of Ethics in undergraduate curriculum respectively.

Regarding the presence of ethical committee, only 53 (23.6%) were aware about the existence of ethical committee in the college^{6,12,13}.

adequately in clinical years of medical college especially final year (76%) was supporting this notion^{6,11,15-17}.

According to a study conducted in India about professional negligence, male doctors had more knowledge than female counterparts¹⁸ but

according to our study there was no significance difference between the two groups. According to our study, 72.4% agreed that children should never be treated without the consent of their parents which was in concordance with the results from the studies from all over world^{6,7,12,14}. Regarding question about whether Relatives must always be told about patient's condition, mostly agree to this statement. This can be explained in the context of strong social bonding and family system prevailed in our region.

"Patient wishes must always be adhered" was agreed by 61% of the students which was similar to the study of Walrond *et al*⁶ and Angadi *et al*¹³ whereas in Nepal 78%¹¹ and in India 54% agreed to the statement¹⁶. About the statement whether "The patient should always be told if something goes wrong during treatment" 72% agreed and 20% were not sure. These results were in concurrence to studies conducted in India and Nepal^{6,11-13}. Whereas on the other hand physicians had greater tendency to agree with this statement with proportions of 83.6%, 85% and 87%^{7,14,17}. It might be due to the fact that with greater clinical experience physicians realized the importance of telling every detail about the health of the patient.

About two third of the respondents disagreed to the statement that patient who wishes to die should be assisted in doing so, no matter what his/her illness is^{6,12}. As compared to the students, proportions of the physicians disagreeing the statement was higher i.e.^{7,14,18}. It clearly indicates that knowledge about mercy killing is less among undergraduates and importance of protecting the sanctity of human life comes to understanding during clinical practice. Similarly regarding treatment of violent patients, with the increasing clinical experience of the health professionals understanding of the patient's psychology help the doctors to be more professional irrespective of the behavior and attitude of the patient towards the treating doctor.

RECOMMENDATIONS

With the advent of new era in the medical field, doctors are required to have sound know-

ledge of ethics so that they are competent enough to handle any situation. As our study highlights the deficiencies in various aspects of ethical knowledge it can be used to develop the curriculum but we need to combat this issue at multiple fronts. We need to take more concrete steps to make our young physicians emotionally intelligent and ethically sound.

CONCLUSION

Students are lacking basic ethical knowledge especially during clinical years. We lack the proper faculty and departments to teach the core of medical ethics to the undergraduates. Teaching ethics and professionalism is indispensable at the moment.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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