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Assessment of knowledge and practice of bioethical principles in a healthcare setting.

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ABSTRACT

Background: Medical ethics is integral part of health care delivery or research now. So the study was planned to understand the knowledge level on medical ethics in a medical care setting. **Methodology:** The study was conducted in Madha Medical college research institute for the period of two months in 2019. It was a cross sectional study which was conducted with medical students, interns and doctors. A set of 20 questions were framed and responses collected randomly from responded offline and online method of data collection. **Results:** Among 151 participants 69(46%) were students, 46(30%) doctors, 36(24%) CRRIs. Doctors were performed good with the score of 64.18%, followed by students 40.88%, interns 31.11%. The overall performance among all participants was 44.89%. Ethical domain wise analysis was made. Respect for cultural diversity and pluralism, Human dignity and human rights, Benefit and harm, Privacy and confidentiality, Equality, justice and equity were better performed. The domain wise analysis also shows there is a highly significant difference of performance between doctors, students and interns. **Conclusion:** Current level of knowledge and practice is not satisfactory among medical students and interns and improvement is needed in application of ethics among medical practice and research among practicing doctors. Teaching ethics should be incorporated with medical curriculum intensively and assessed periodically.

Key word: Bio-Ethics, ethics, cross sectional study, curriculum improvement, Ethical principle

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INTRODUCTION

Ethics is the philosophy behind moral or the theoretical basis for moral. Bioethics is defined as a significant inspection of the ethical extent of making judgments in medical and biological science situations.[1] Medical ethics is now included in medical curriculum. The objectives of medical ethics education can be divided into two main categories: cognitive (or competency) objectives and attitudinal (or virtue) objectives. The first category refers to the knowledge and understanding of the values, principles, and norms that inform and regulate medical practice; the second category refers to the development of the approach, attitudes, and virtues of a good doctor.[2]

The field of bioethics explores the ethical issues arising due to these advances in research and encompasses social, judicial, and environmental aspects affecting human beings.[3,4]

Universal Declaration on Bioethics and Human Rights (UNESCO) consists of 28 articles. Among them 19 related with principles which includes

Article 3 – Human dignity and human rights , Article 4 – Benefit and harm, Article 5 – Autonomy and individual responsibility, Article 6 – Consent , Article 7 – Persons without the capacity to consent , Article 8 – Respect for human vulnerability and personal integrity , Article 9 – Privacy and confidentiality , Article 10 – Equality, justice and equity , Article 11 – Non-discrimination and nonstigmatization , Article 12 – Respect for cultural diversity and pluralism , Article 13 – Solidarity and cooperation Article 14 – Social responsibility and health , Article 15 – Sharing of benefits , Article 16 – Protecting future generations , Article 17 – Protection of the environment, the biosphere and biodiversity.[5]

Ethical conflicts are common during the initial years of a medical professional's career which makes the inculcation of a sound *foundation* in medical ethics essential. Ethical dilemmas are usually encountered in areas such as abortion, contraception, treatment of a patient with a terminal illness, professional misconduct, maintaining a patient's confidentiality, the doctor's professional relationship with the patient's relatives, religion, traditional medicine, and conflict of interests. The conventional medical course offers students little help in resolving the ethical dilemmas they will encounter as healthcare professionals. The dearth of specialists in bioethics and a lack of organized human resources have led to lack of appreciation of the urgent need to include bioethics in medical education in India. As more importance given to bioethics in this period, it is better to understand our understanding on this local setting.[6]

The principles of bioethics as given by Beauchamp and Childress are autonomy, beneficence, nonmaleficence and justice · Autonomy is the principle that states people should be educated and able to make decisions regarding what happens to them without being influenced. The term beneficence tells you about 'doing good' for your client. The concept of nonmaleficence tells you to 'do no harm' either intentionally or unintentionally to your clients. Justice is a complex ethical principle and it entails fairness, equality and impartiality.[7]

Uniquely, in India, the field of medical ethics has a very mixed pedigree, drawing its followers from among medical professionals, health activists, health systems analysts and economists, various kinds of social scientists and consumer protection groups.[8]

The latest version of guidelines has addressed the newer emerging ethical issues keeping in view the social, cultural, economic, legal and religious aspects of our country. The new "National Ethical Guidelines for Biomedical and Health Research involving Human Participants, 2017 serve as a guide to answer and meet the challenges and concerns raised by the emerging ethical issues.There are now a total of 12 sections including Responsible Conduct of Research, Informed Consent Process, Vulnerability, Public Health Research, Social and Behavioural Sciences Research for Health, Biological materials, Biobanking and Datasets and Research during Humanitarian Emergencies and Disasters. Many new issues have been added up as subsections e.g. sexual minorities (LGBT), multicentric studies, research using datasets etc. The section on ethics review process has been elaborated to help the many ethics committees who have doubt about the various procedures to be followed. The support given to the drafting committee by ICMR to complete the work within the stipulated time needs appreciation.

These four basic principles have been expanded into 12 general principles, and are to be applied to all biomedical, social and behavioural science research for health involving human participants, their biological material and data.[9]

This study aims to assess the knowledge regarding medical ethics among medical students, interns and medical doctors; to assess the mode of education obtained on medical ethics during the medical course; to assess the attitude towards different aspects of healthcare ethics.

MATERIALS AND METHODS OF STUDY:

This qualitative study was conducted by the department of community medicine in Madha Medical College and Research Institute during the period of July to August 2019.

It is a Cross sectional study. The study design was of Stratified Random sampling method. The study was conducted among medical students, interns and medical doctors.

The sample size was calculated conveniently in each group- 70 students, 40 CRRI and 40 doctors, so totally 150 was the final sample size. Consented medical students, interns and medical doctors were

included. Staffs having paramedical degree and doctorate were excluded in the study.

Tool: Questionnaire was developed in two parts. Part 1 consists of demographic details, part 2 consists of questions related knowledge and practice on bioethics and everyday ethical issues. Questions with certain statements concerning ethical conduct, autonomy, paternalism, confidentiality, informing patients about wrongdoing and informing relatives about the patient's condition, informed consent, and the influence of religious beliefs on the treatment were developed. The questionnaire was also put in google form to elicit information easily. The link was

The minimum bioethical principles tested are given below (box 1).

Box 1. Ethical Principles tested in the study

Article 3 – Human dignity and human rights Article 4 – Benefit and harm Article 5 – Autonomy and individual responsibility, Article 6 – Consent , Article 7 – Persons without the capacity to consent , Article 8 – Respect for human vulnerability and personal integrity , Article 9 – Privacy and confidentiality , Article 10 – Equality, justice and equity , Article 11 – Non-discrimination and non-stigmatization

Data collection: The data was collected by trained medical students using the questionnaire. After getting consent, the questionnaire was given to the participants to elicit the response. Maximum effort will be put to get the response for all the questions in two parts. Additionally data collection was done using the google forms. So we were able to get the response digitally. It eliminates the problem of errors during data entry.

Data management: The collected responses were entered in MS excel. Data collected from google forms were converted into excel form. Both types of responses were merged. Double data entry was employed in data entry from physical forms to minimize the error. The data was analysed in Epi info. P<0.05 will be taken as a statistically significant. Proportion and chi-square test will be used. Ethical clearance for this study was obtained from Institutional Ethics Committee, MMC&RI.

OBSERVATIONS AND RESULTS:

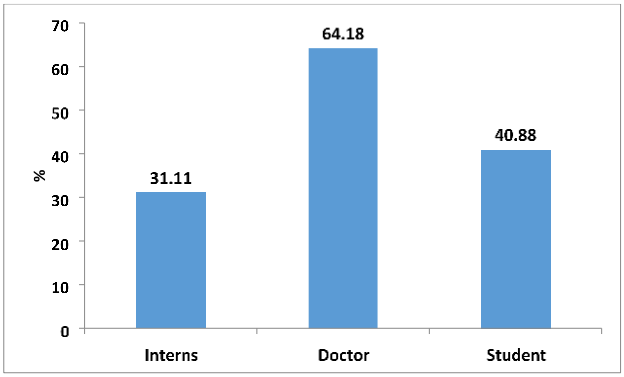
Out of 153 people contacted two were not consented. Among 151 participants 69(46%) were students, 46(30%) doctors, 36(24%) CRRIs . There were 49 fields empty. Only 6 questions out of 20 were attempted fully by the participants. Maximum attempted questions are related to no. of article available in universal declaration on bioethics and human rights under UNESCO(10), number of ethical principles in ICMR(7),stigma (7) . The empty fields were adjusted in the analysis. We have taken ten ethical domains to present the data.

Question wise performance of profession wise is given in Table 1 and Figure 1. Doctors were performed well with the score of 64.18%, followed by students 40.88%, interns 31.11%. The overall performance among all participants was 44.89%.

Ethical domain wise analysis was made. Respect for cultural diversity and pluralism, Human dignity and human rights, Benefit and harm, Privacy and confidentiality, Equality, justice and equity were better performed (Table 2).

The domain wise analysis also shows there is a highly significant difference of performance between doctors, students and internes (Table 3)(P<0.005).

Figure 2. Percentage of correct responses between groups



DISCUSSION:

The current study critically reviews the understanding and practice of bio ethical principles in medical care and research domain. The overall correct response was received from respondent was less than 50%. The poor performer was interns who studied the older MBBS curriculum. After given importance of ethics in undergraduate level, the performance of students in ethics is far better. The study reveals greater

Table 1. Performance of respondent's questions wise

S.No	Questions	CRRI (%)	Doctor (%)	Student (%)	Total (%)
1	Applicability of ethical principles	38.89	97.83	55.07	64
2	Number of Ethical Principles in ICMR Biomedical/Health Research	44.44	47.5	33.82	40.28
3	No. of Article available in Universal Declaration on Bioethics and Human Rights under UNESCO	41.67	32.43	33.82	35.46
4	Rights to health	33.33	91.3	56.52	61.59
5	Human Dignity related to	25	74.42	47.83	50
6	Doing no harm	33.33	74.42	37.68	47.29
7	Communicating with Patients about Harms and Risks	30.56	95.65	53.62	60.92
8	Requires informed consent	47.22	66.67	41.18	50.34
9	Ethical principles form the basis for Informed Consent	38.89	73.33	51.47	55
10	Relevant in autonomy	19.44	24.44	14.49	18.66
11	Autonomy	19.44	24.44	14.49	60.4
12	important step in informed consent process	22.22	66.67	36.76	42.28
13	Surrogate decision-makers	27.78	56.82	29.41	37.16
14	Vulnerable people who needs care	27.78	75	33.33	44.29
15	Privacy	36.11	89.13	65.22	65.56
16	Sharing HIV results to family	27.78	41.3	42.03	38.41
17	confidentiality	25	82.22	48.53	53.07
18	Inequality	33.33	78.26	49.28	54.03
19	Stigma	22.22	7.32	20.9	17.36
20	Good Clinical practice	27.78	84.44	52.24	56.08
	Total	31.11	64.18	40.88	44.89

Table 2. Ethical domain wise correct responses from the participants

Parameters-Domain	Questions	Question Set/ Correct answers 1	2	3	Average (%)
Ethical principles	%	64	40.28	35.46	46.58
	Questions	1	2		
Human dignity and human rights	%	61.59	50		55.8
	Questions	1	2	3	
Benefit and harm	%	47.29	60.92	50.34	52.85
	Questions	1	2	3	
Autonomy and individual responsibility	%	10.7	18.66	60.4	29.92
	Questions	1	2		
Consent/Persons without the capacity to consent	%	42.28	37.16		39.72
	Questions	1			
Respect for human vulnerability and personal integrity	%	44.29			44.29
	Questions	1	2	3	
Privacy and confidentiality	%	65.56	38.41	53.07	52.35
	Questions	1			
Equality, justice and equity	%	54.03			54.03
	Questions	1			
Non-discrimination and non-stigmatization	%	17.36			17.36
	Questions	1			
Respect for cultural diversity and pluralism	%	56.08			56.08
Total					44.89

Table 3. Comparison of correct responses under each ethical domain with different group of participants

Ethical Domain	CRRI(%)	Doctor (%)	Student (%)
Ethical principles	41.67	59.25	40.91
Human dignity and human rights	29.17	82.86	52.17
Benefit and harm	37.04	78.91	44.16
Autonomy and individual responsibility	25.93	40.74	26.82
Consent/Persons without the capacity to consent	25	61.74	33.09
Respect for human vulnerability and personal integrity	27.78	75	33.33
Privacy and confidentiality	29.63	70.89	51.93
Equality, justice and equity	33.33	78.26	49.28
Non-discrimination and non-stigmatization	22.22	7.32	20.9
Respect for cultural diversity and pluralism	27.78	84.44	52.24

Chi-square Value: 41.21;Degrees of Freedom:18;P value: 0.0014

importance should be given in areas of ethics in medical care setting. This may indirectly help the patients and research respondent to get maximum benefits and avoid violence against medical professionals. There are many studies on ethics were conducted in medical or dental institutions. The performance level is similar to current study findings. A study conducted in south India shows only 21,3% participants knew the contents of ICMR ethical guideline but most of the PGs known about ethical committee.[10] But the other study in West Bengal shows only 10.9% students knew about ethical committee and 50.9% of students achieved good scores on Medical ethics.[11]

A study shows only 62 % didn't know about any ethical problems.[12] In one more study conducted in final year students reveals that 47% felt privacy of the patient must not be ignored.[13]

Another study reveals the importance of medical education and how periodic assessment help in improvement of medical ethics.[14] One more study shows only 18.4% knew about ethical principles.[15]

The socio-cultural ethos in India and its varying standards of healthcare pose unique challenges to the application of universal ethical principles to biomedical and health research. Medical professionals frequently encounter ethical issues in their training or practice but lack the sensitivity to resolve these dilemmas. The incorporation of a bioethics curriculum in the initial period of the graduation and post-graduation programmes would be beneficial. In order to recognize and correct the issues regarding bioethics, people must be respected and not seen as passive sources of data but as people whose rights and welfare must be protected. Physical risks and psychological harm must be minimized, and the importance of informed consent and maintenance of confidentiality should be stressed upon.

The growing chasm between doctors and patients, the wishes of many patients to be treated as partners in their care, the commercialization of medicine, and importantly, the rapid breakthroughs in medical technology such as "designer babies," euthanasia, robotics, and cloning have created an urgent need for an ethical framework to guide the clinician's behaviour and decisions.[16]

Sensitizing the citizens to important issues that concern life is an essential function of education. Careful thought on various moral, social and legal issues should precede a sensible action. Of all branches of ethics, bioethics would appear to be the most fundamental as it has to do with the crucial and enigmatic issues of life and death. It is observed that people in general and teachers in particular are not well aware of bioethical issues.[17] The UNESCO furthers its bioethics programs through standard setting, capacity building, education, and awareness building. Currently, there are more than 114 Bioethics

Chair Haifa Units all over the world from Armenia to the USA to Vietnam and more than 25 such units in India alone. A Youth Bioethics Project for bioethics training in schools was initiated. UNESCO established Chairs to improve the teaching of bioethics in medical schools. The ICMR was given a planning grant from the National Institutes of Health in the United States of America to develop a bioethics curriculum in 2006. These sponsored bioethics training programme has 3 main components. One is the sensitization programme, starting from undergraduate medical students to postgraduate medical and non-medical students, institution ethics committee members, researchers and faculty members, both national and international. To strengthen ethical reasoning and judgment in decision making, clinically oriented pedagogical measures like case studies, seminars, interactive workshops, utilising the work experience of multidisciplinary medical expertise can be planned based on the study.

CONCLUSION: Current level of knowledge and practice is not satisfactory among medical students and interns and improvement is needed in application of ethics among medical practice and research among practicing doctors. A consistent way of teaching and evaluation ethical curriculum is to be implemented.

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