

# Knowledge, Attitudes and Practices of Bioethics among Doctors in a Tertiary Care Government Teaching Hospital in India

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## Abstract

Human subjects' participation in medical research has often raised ethical concerns. After Nazi exploitation; various Guidelines & Declarations were prepared, but still unethical behaviour of healthcare practitioners is being reported. After graduation and entering into practical field; sudden exposure to challenges makes it difficult to take decisions, which shows a lacuna in traditional medical training. There are debates about inclusion of practical ethics in medical curricula. Present study assesses the knowledge, attitude and practices of healthcare ethics among doctors in a government teaching hospital. A self-administered structured questionnaire was devised, tested and distributed (n = 172). Faculty and residents were compared using Chi square test and the residents' responses in different years of residency were compared using Chi square test followed by Kendall's tau-c test to find correlation. Faculty was more aware of the guidelines. About 77.8% faculty and 48.5% residents were aware of Institutional Ethical Committee (IEC), and about 37.5% from faculty and 23.5% from residents were satisfied with IEC. Faculty encountered ethical problems more often (62.5% vs 45.5%) than residents. Source of knowledge of bioethics was multiple. Departmental lectures were not preferred mode of learning (8.8%). Colleague was most preferred mode of consultation for any problem. Some residents faced ethical problem in publication. All faculty and 94.1% residents felt the need for further education on bioethics. There was negative correlation (-0.3, p<0.001) between the frequency of ethical problems and residency years. There is an urgent need to include formal training of practical ethics and make departmental learning more interesting.

**Keywords:** Bioethics; Clinical research; Hippocratic Oath; KAP; Survey; Questionnaire

## Introduction

The participation of human subjects in medical research has raised ethical concerns from time to time. After the gross exploitation of human subjects by the Nazi regime under the guise of medical research, the international community was bound to think in the direction of ethical regulations, so a number of Guidelines, Declarations, and Codes & Reports were prepared [1-10].

However, in spite of all these guidelines, there are still a number of reported incidents of unethical behaviour of medical students and health practitioners with patients as well as colleagues [11-13]. This may be partly due to a lack of practical ethical guidance during the learning phase. Recently, in India, as the medical profession has been brought under "Consumer Protection Act" [14], there have been increasing complaints of poor ethical conduct against healthcare practitioners. This may be due to increased public awareness and inappropriate practices by the healthcare professionals.

After graduating the medical course and entering into practical field, the sudden exposure to various challenges makes it very difficult to take decisions encompassing the broader aspect of both scientific knowledge and human values. Medicine is holistic in nature and patient-physician relationship is its backbone [15,16]. Clinical knowledge alone is not sufficient to solve medical problems. Patients are more inclined to consult those physicians who have expert clinical knowledge, well aware of patients' needs and values, able to effectively engage in dialogue, communicate clinical knowledge with empathy and understanding, and embrace their broader concerns.

With the information explosion and increasing public awareness,

physicians must be competent and compassionate. Future doctors and medical students must be provided excellent scientific knowledge within the context of the moral basis of their relationship with the patients and they must understand how the human values are embedded in clinical decision making. Though the current curriculum includes the topics related to ethics and there are studies stressing the importance of incorporating ethical and legal issues into medical curricula [17-19], still the traditional medical training offers little help in resolving the practical ethical problems encountered by healthcare professionals. There are opinions and debate on the subject of inclusion of formal education of practical ethics in medical curricula [20] as it has been found that ethics teaching has a profound influence on medical professionals' attitudes and decision making [21,22]. Moreover, some institutions have developed guidelines for ethics in clinical teaching and surgical residency programmes [23-25]. But the initial step in this direction is to determine the prevailing knowledge and attitude of healthcare professionals in the concerned region. In this regard, some studies have been done in the past in different regions [26-28]. The present study has been done to assess the knowledge,

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**Received** August 01, 2011; **Accepted** October 19, 2011; **Published** October 22, 2011

**Citation:** Mohammad M, Ahmad F, Rahman SZ, Gupta V, Salman T (2011) Knowledge, Attitudes and Practices of Bioethics among Doctors in a Tertiary Care Government Teaching Hospital in India. J Clinic Res Bioeth 2:118. doi:10.4172/2155-9627.1000118

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attitude and practices of healthcare ethics among medical professional in a government teaching hospital in India.

## Methods, population and data analysis

A twenty item self-administered structured and validated questionnaire about knowledge, beliefs and attitudes towards principles and practice of bioethics in clinical research, informed consent and role of an ethics committee in a tertiary care teaching hospital was developed de novo, tested and reviewed by the Institutional Ethics Committee. It was made available to all consultant physicians & senior residents (faculty) and junior residents at Jawaharlal Nehru Medical College, Aligarh, India (a tertiary care government teaching hospital) during January – February 2011. Respondents were selected on the basis of convenience sampling, and approached by at least one of the authors in person. The questionnaires were completed by the respondents in private and handed back to investigators in sealed, unmarked envelopes. The questionnaire included a full range of response options.

Prior to distribution of the questionnaire a pilot study was done with a selected group of physicians who were asked to fill out the questionnaire and return with comments and criticism. The initial part of the questionnaire consist of a section on demographics such as designation, graduating institute, taking of Hippocratic Oath after graduation and their current status of involvement in clinical research. The second part of the questionnaire assessed the awareness of the respondents about the codes, regulations and guidelines like (Nuremberg code, the Helsinki declaration, CIOMS guidelines, revised guidelines of ICMR for biomedical research on human participants), and the recent example of an unethical medical research in India.

Further, questions were asked about the respondent's knowledge of the presence of an ethics committee (IEC) in the institution, its composition, role and finally their satisfaction about the role of the ethics committee. They were also inquired whether all studies involving human beings need to be reviewed by IEC and what type of studies to be exempted. The respondents were questioned about the Informed consent in their research, was in local language and whether they give a copy of it to the patient.

In the final part of the questionnaire, respondents were enquired about the frequency of ethical problems encountered in research and publication, the source of knowledge of bioethics and the preference for consultation regarding an ethical problem should it arise. Finally they were asked whether they feel the need of educational activities in the field of bioethics in their institution.

Out of the 200 distributed questionnaires, 183 were returned of which 11 were not filled properly and were not included for analysis. The present paper analyses and compares the responses of the faculty and residents (n = 172) among the survey. Data were analyzed using SPSS version 16.0 software. Descriptive analyses were done for all the data. The knowledge, attitudes and practices towards bioethics were compared between faculty and graduate medical students using a Chi square test. Additionally, the responses of graduates in different years of residency were compared using Chi square test followed by Kendall's tau-c test to find correlation between residency experience and knowledge, attitudes and practices towards bioethics. A p value of (< 0.05) was considered statistically significant.

## Results and Discussion

The findings of the present study clearly show the difference in the knowledge and attitudes between faculty and residents. Table 1 shows

the basic demography of the respondents. All the faculty members and about 76.5% of the residents included in the study graduated from same college. Moreover, about 21% of the residents and 33% of the faculty have formally taken Hippocratic Oath. 71% of the residents and 89% of the faculty was actively involved in research. Table 2 shows the knowledge of different guidelines among residents and faculty. As expected, faculty was more aware of the guidelines than residents owing to their long involvement in research, but still the number is far from satisfaction. No significant difference was found between residents and faculty regarding the awareness of a recent unethical renal cell carcinoma drug trial.

Table 3 compares the knowledge, attitude & practice of faculty with residents regarding Institutional Ethics Committee (IEC). The unawareness regarding the ethical committee in the present study is more than the previous studies [26,27]. There was a significant difference between faculty and residents about the awareness of institutional ethics committee, but not regarding its composition. Majority of the residents and faculty were of the opinion that dean is the chairman of IEC. As expected, significantly greater numbers of projects were submitted to the IEC by the faculty as compared to residents. About 37.5% of the faculty and 23.5% of the residents were satisfied with the functioning of the IEC. Majority of the faculty thought that all studies involving human beings should be reviewed by IEC, while some thought that retrospective studies should be exempted. In contrast, most residents

CATEGORY	NUMBERS	PERCENTAGE
Faculty	36	20.9
Residents (Total)	136	79.1
JR I	28	16.2
JR II	32	18.6
JR III	76	44.3

Table 1: Basic demography.

Guidelines	Residents (%)	Faculty (%)
Nuremberg Code	11.1	17.6
Helsinki Declaration*	22.2	47.1
Revised ICMR guidelines	22.2	21.2
CIOAMS Guidelines*	2.7	9.6

(\*indicates p<0.05)

Table 2: Awareness of different guidelines among faculty & residents.

Questions	Faculty%	Residents %
Awareness about the IEC in institute*	77.8	48.5
Submission of application to IEC for review of research work*	62.5	32.4
Pursuance of research work even after rejection of application*	0	21.1
Awareness regarding the composition of IEC	44.4	29.4
Who is the chairman of IEC*		
Dean	50.0	60.0
Principal	0	3.3
CMS	0	10.0
Others	37.5	0
Don't know	12.5	26.7
IEC of the institution is playing its role properly	37.5	23.5
Need of all studies involving human beings to be reviewed by IEC*	71.4	33.3
If no, then what types of studies are exempted*		
Retrospective	66.7	23.8
Survey	0	61.9
Don't know	33.3	14.3

Table 3: Knowledge, attitude & practice of faculty and residents regarding IEC.

Questions	Faculty %	Resident %
Taking of written informed consent*	100.0	64.5
In local language	50.0	39.3
According to the format of ICMR	37.5	29.6
Provide a copy of written informed consent to the patients*	10.0	15.2

**Table 4:** Showing the responses to questions on informed consent.

said that there is no need of IEC review for survey and retrospective studies. No faculty member was willing to pursue research proposal after rejection by IEC, while 21.1% of the residents would prefer to continue even after rejection by IEC. This may be due to the fact, that at early career stage, they do not give much consideration to the ethical aspects.

Table 4 shows that all the faculty members take written informed consent. Moreover, they are more adhered to standard format as evident by the responses. Overall, attitude to provide a copy to the patient is more in residents; they probably consist of those residents associated with particular faculty members who also provide a copy to patients. Half of the faculty and 68.8% of the residents said that there is involvement of bioethics while publication in peer-reviewed journals. Some of the residents faced ethical problem while publishing their studies. Faculty responded that they encountered ethical problems in clinical practice & research more often (62.5% vs 45.5%) than the residents; this may be due to referral of such cases by the residents to the faculty, which adds to their own cases. It implies that both the junior and senior staff needs to be included while offering training.

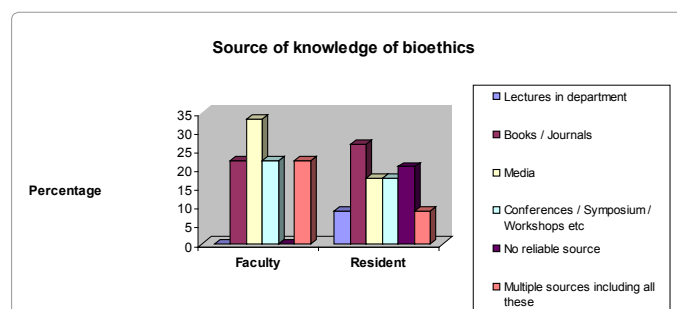
Figure 1 depicts the source of knowledge of bioethics among faculty and residents. Very few respondents had obtained their knowledge of ethics from a single source. Media is the most common source for the faculty while books & journals are the preferred mode for residents. An important finding is that 22% of the residents do not find any reliable source for consultation. Another concern is that, departmental lectures are not playing an important role and they are not a much preferred mode of learning for residents as well as faculty (8.8%). This shows that the curricular training regarding bioethics is either inadequate or ineffective. Healthcare personnel receive limited formal training in ethics even though their daily work involves direct and often crucial intervention in others' lives [26]. There is a need to revitalize this aspect; as for their entire training period, the residents remain attached to the department and for most of the career, the faculty remains attached. Departmental lectures can play a significant role in upgrading the knowledge and modifying the attitude & practices of faculty and residents.

Figure 2 shows the preference of consultation of residents and faculty in case of an ethical problem. It is interesting to note that colleague was the most preferred mode of consultation in case of an ethical problem by faculty as well as residents; so a sound knowledge of bioethics becomes very imperative in this scenario to avoid misguidance of the peers. Moreover, the second most preferred mode for the residents was guide / HOD which is from faculty; and the faculty is mainly depending on colleague and miscellaneous sources, so ultimately good training for the faculty is more important than residents. All the faculty members and approximately 94.1% of the residents felt the need for lectures / conferences / symposia / CME / workshop etc on bioethics in the institution.

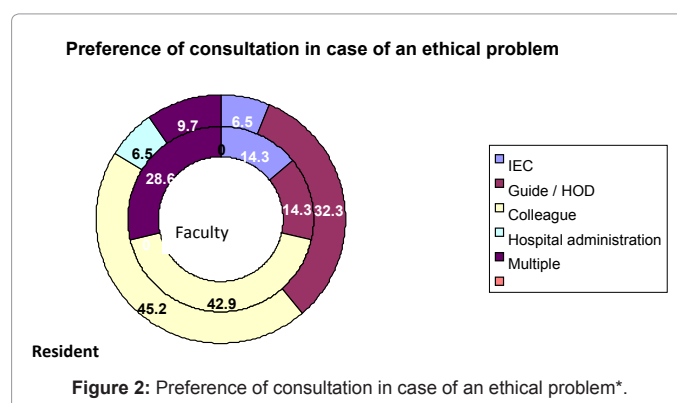
There was a weak correlation ( $r=0.2$ ,  $p<0.05$ ) between the knowledge of ethical guidelines and residency year but no significant difference was found between the residency year and the recent awareness about

an unethical carcinoma trial. As expected, approximately 14.3%, 75% and 89.5% of JR I, JR II and JR III respectively were actively engaged in research. All the residents in 1<sup>st</sup> and 2<sup>nd</sup> year and about 90% in final year felt the need for lectures / conferences / symposia / workshop / CMEs etc on bioethics in the institution.

Table 5 shows the correlation between residency years and knowledge, attitude & practice regarding Institutional Ethical Committee (\* denotes  $p<0.05$ ). There is a weak but significant correlation in two questions; more number of 2<sup>nd</sup> year residents submit application to IEC owing to the allotment of thesis topic in JR II.



**Figure 1:** Source of knowledge of bioethics among faculty & residents\*.



**Figure 2:** Preference of consultation in case of an ethical problem\*.

Questions	JR I	JR II	JR III	R value
Awareness about the IEC in institute	33.3	50.0	52.6	0.11
Submission of application to IEC for review of research work*	28.6	37.5	31.6	0.18
Pursuance of research work even after rejection of application	0.0	12.5	16.7	0.32
Awareness regarding the composition of IEC	14.3	37.5	32.6	0.09
Could a non-medical be member of IEC	28.6	75.0	38.9	0.17
Who is the chairman of IEC				
Dean	50.0	66.7	61.1	-0.12
Principal	0.0	0.0	5.6	
CMS	0.0	0.0	16.7	
Others	0.0	0.0	16.7	
Don't know	50.0	33.3	0.0	
IEC of the institution is playing its role properly	28.6	25.0	21.1	0.07
Need of all studies involving human beings to be reviewed by IEC*	16.7	25.0	42.1	0.23
If no, then what types of studies are exempted				
Retrospective	33.3	40.0	15.4	0.31
Survey	66.7	60.0	61.5	
Don't know	0.0	0.0	23.1	

**Table 5:** Showing the correlation between residency years and knowledge, attitude & practice regarding IEC (\* denotes  $p<0.05$ ).

Moreover; as the residency year increases, residents feel that all studies involving human beings should be reviewed by IEC.

As depicted in Figure 3, there is highly significant negative correlation ( $-0.3, p<0.001$ ) between the frequency of ethical problems encountered and residency years. Frequency of ethical problems is increasing with the residency period; this is very much expected as final year residents are more involved in research and they might be

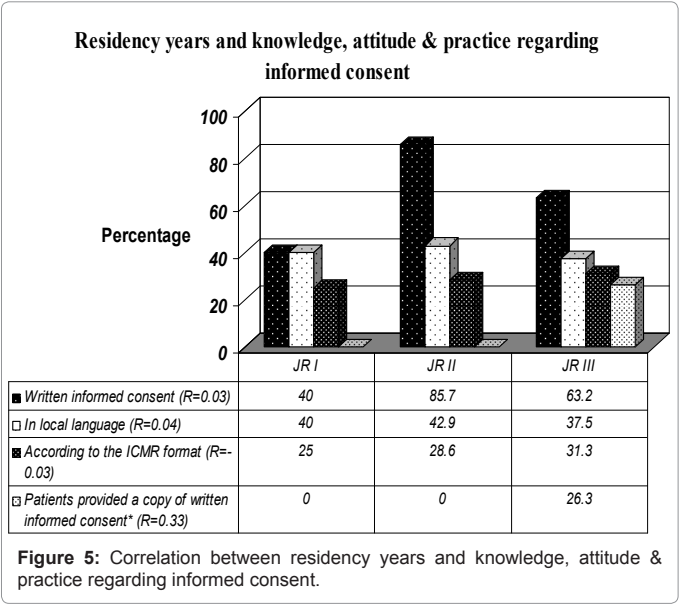
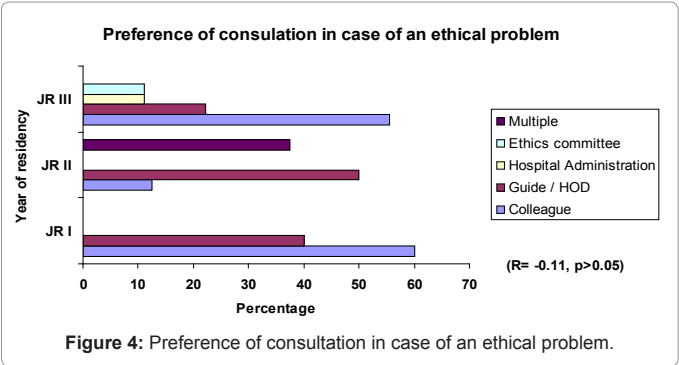
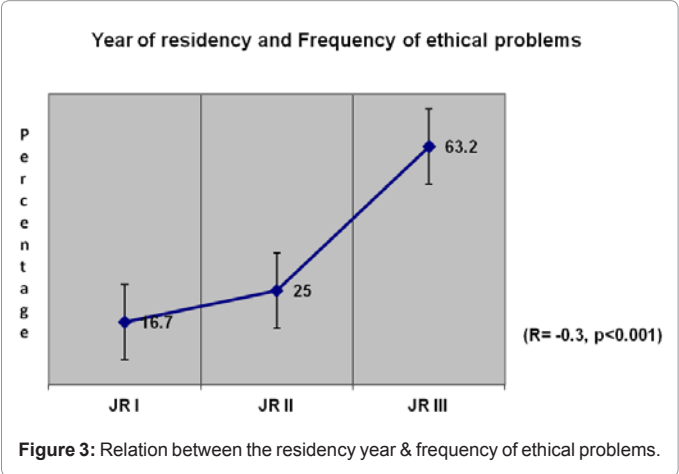
overemphasizing trivial issues. The source of knowledge of bioethics among residents was multiple for example departmental lectures, books, journal, media, conferences, workshops and other sources, and no significant correlation was found between residency years and source of knowledge of bioethics. No significant correlation was found between the residency years and preference of consultation for an ethical problem. Multiple modes of consultation, like ethical committee, hospital administration, guide/HOD etc were there in case of an ethical problem, but most residents preferred to first consult their colleagues as they are most easily approachable and understandable. There was no significant correlation between residency years and knowledge, attitude & practice regarding informed consent except that more number of final year residents provide a copy of informed consent to patient. This may be explained by the fact that final year residents are more knowledgeable than their juniors.

Conclusion

Physicians very frequently come across ethical dilemmas in their day to day practice. They are not provided formal training in practical aspects of ethics in their medical curricula. In addition to this; as the findings of the study identify that departmental lectures/teaching is also not very favorable among them, so there is an urgent need to include practical education of ethics, that too in an interesting manner, particularly in a multidisciplinary setting, to bridge the gap in the knowledge, attitude and practices regarding ethics in clinical practice & research. The state of medical education in India presents a scenario marked by rhetoric and wishful thinking rather than concrete steps in right direction.

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