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Knowledge and attitudes about research ethics among dental postgraduate students: A cross-sectional survey

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Abstract

Background: Research ethics encompasses the principles, standards, norms and guidelines that regulate scientific inquiry. Attitudes of postgraduate students towards concepts of research ethics should be considered important towards quality research output. Aim of the study was to assess knowledge and attitudes about research ethics among postgraduate students of dental colleges in Davanagere city. **Methods:** A cross-sectional questionnaire survey was conducted involving 147 postgraduate students of two dental colleges in Davanagere city. A pretested 26 items self-administered questionnaire to assess the knowledge, attitude and awareness about research ethics was distributed to participants. Responses to knowledge related questions had multiple choices and responses to attitude related items were on 3 point Likert scale. Descriptive statistics was generated in frequencies and percentages.

Results: Out of 147 students around 48.9% - 64.8% students had fair knowledge and more than 80% showed positive attitude towards research ethics.

Conclusions: Majority of students had fair knowledge and many of them expressed positive attitude towards research ethics.

Keywords: Research, ethics, knowledge, attitude, postgraduates, dental

1. Introduction

The work that health professionals do is of great importance to society because it impacts the health security, and well-being of those served. Research ethics in its broadest definition encompasses the principles, standards, norms and guidelines that regulate scientific inquiry. The primary role of ethics in health research is to protect the rights, integrity, and safety of research participants^[1]. Medical research has increased greatly in many developing countries during the recent decade, motivated by the need to improve health in these countries. Since medical research involves human participants, such research needs to be guided by fundamental ethical principles to ensure the protection of their rights and welfare. Furthermore, international standards mandate the review of research by research ethics committees (RECs). Healthcare ethics is not routinely taught to the medical professionals, and there are reports that even the word “ethics” has been discounted during the undergraduate curriculum. The same may be true with the training of other healthcare providers such as the nursing professionals and other paramedical professionals. Hence it is not surprising that the theory and application of healthcare ethics in day-to-day practice are still not well known to many healthcare providers^[2]. Another reason regarding less awareness is that students do not have much interest in learning about research ethics as they consider other subjects to be more important for qualifying for examinations^[3]. The field of dentistry is committed to ongoing research aimed at investigating the causes and treatment of dental diseases and adheres to the same ethical standards embraced by the fields of medicine. However, to our knowledge, little research has investigated the attitudes of dental faculty and postgraduate students towards concepts of research ethics. Hence, a study was planned with the aim of assessing knowledge and attitudes about research ethics among postgraduate students of dental colleges in Davanagere city. This may aid us in developing relevant educational programs in research ethics directed towards dental faculty and postgraduate students

2. Methodology

A descriptive, cross sectional questionnaire survey” was conducted to assess knowledge, and attitudes about research ethics among postgraduate students of two dental colleges in

Davangere city in an Institutional setting. A total of 147 postgraduate students from two dental colleges in Davangere participated in this study. Convenient sampling technique was employed to select the study subjects who were the post graduate students from first year to final year in all the dental specialties of two dental colleges. Ethical clearance was obtained from the Institutional Review Board of Bapuji Dental College and Hospital to conduct the study and Informed consent was obtained from all the study subjects.

2.1 Collection of Data

All the postgraduate students of Bapuji dental College and Hospital and College of Dental Sciences were invited to participate in this study. All students were asked to assemble at one time at one place in each department respectively. A pretested self-administered questionnaire to assess the knowledge and awareness about research ethics was distributed among the students and they were asked to complete the questionnaire in 20 minutes time.

2.2 Details of Questionnaire

The questionnaire consisted of 31 questions regarding research ethics including their details like name, age, sex, year of post-graduation, college and specialty respectively. The questionnaire was divided into three parts. First part (questions from six to thirteen) assessed their awareness about research ethics, Second part of questionnaire (from items 14 to 23) assessed their knowledge. Responses to knowledge related questions had multiple choices and responses were given scores and the total knowledge score was calculated for each participant which ranged from 0-31 and last set of questions (from 24 to 31) assessed their attitude towards research ethics. Responses to attitude related items were on 3 point Likert scale. Before conducting the study the questionnaire was assessed for the content validity by four Professors who were experts in the field of research methodology and research ethics and one postgraduate student. Questionnaire was assessed for relevance, simplicity, clarity and ambiguity. The Content Validity Index score for relevance, simplicity, clarity and ambiguity was 0.8, 0.7, 0.8 and 0.8 respectively.

2.3 Statistical consideration: Descriptive statistics were applied and data was presented in frequencies and percentages.

3. Results

A total of 147 postgraduate dental students in all the specialties of two colleges responded to the survey with the response rate of 51.6%. Out of 147 students, 97 students (66%) were from BDCH while 50 students (34%) were from CODS. Out of nine specialties from both the colleges, majority of representation were from Pedodontics (19.7%) and very less from Oral Pathology (5.4%) and Public Health Dentistry department (7.5%). Overall 31.3%, 33.33% and 35.4% of first year, second year and third year post graduates participated in the survey respectively. All the students were involved in research projects during their postgraduate curriculum. There were students who were involved in more than one research projects (44.2%). Majority of the students (51.7%) were involved in human studies. Only 12.9% students were involved in observational studies followed by animal studies (10.2%) and descriptive studies (8.2%). Majority of the students (66%) were aware of ethical principles, but answers to the awareness questions indicated

lack of awareness among most of the students (>50%) [Table 1].

Total eight questions were asked to assess their attitude towards research ethics, and all the students showed positive attitude towards research ethics. Maximum number of the students agreed that research ethics committee is very helpful (91.8%) and research ethics committee for ethical review is necessary (91.2%) for all types of research designs. And most of the students (92.5) agreed that research ethics should be taught as a mandatory postgraduate teaching module. Overall, 54.3% had good knowledge about research ethics. Majority of the students (87.17%) showed favorable attitude towards research ethics [Table 1].

4. Discussion

The present study was conducted among the post-graduate students of two dental colleges in Davangere city. This study revealed that 38.5% of them were aware of research ethics contradictory to the results found in previous studies^[5, 6] where most of the postgraduate students had considerable amount of awareness. Though these studies were done among the medical students, but the field of dentistry adheres to the same ethical standards embraced by the fields of medicine. Lack of regular continuing dental education programs on research ethics, perception of being less significant in the field of dentistry during undergraduate curricula, less exposure to these issues during post graduation may be some of the reasons behind lack of awareness. Perhaps, these are the students who were in first year of post-graduation and had less experience towards research methodology and research ethics. Even though more than half of the students were able to give correct answers on the questions assessing the knowledge about research ethics, a significant of them were found to have less knowledge. These results are consistent with results of the study done by Makhani. C.S *et al.*^[7]. These results point towards need for training programs in research ethics.

Majority of students in this study showed positive attitude towards research ethics. Many of them agreed that research ethics committee (REC) is very helpful and there is a need for a research ethics committee for ethical review of all types of research designs. Students also felt that research ethics should be taught as a mandatory postgraduate module as knowledge of research ethics is extremely important. This is in accordance with the study done by Dash S.K. in 2010^[8] where students expressed a favorable attitude towards training in research ethics.

The limitation of the present study is that the study was based on convenience sampling, thus the response of the students who completed the survey may not reflect the awareness, knowledge, and attitudes of all the postgraduate students in other colleges limiting the generalizability of results. Future studies involving students from more number of colleges and universities should be done in order to plan training programs which are standardized and common to all the health profession colleges.

5. Conclusions

The results of the study indicate that, there appears to be an acceptance of research ethical committee (REC) among the students. Secondly, there seems to be a need for education in research ethics module in postgraduate curriculum. Therefore further development of educational endeavors in research ethics for all postgraduate students across various health professions, with special emphasis on vulnerable participants,

responsible conduct of research, and the roles and functions of research ethics committees should be undertaken. Recently, educational initiatives in research ethics have been organized in many regions in the developing world. Such efforts can lead to enhanced knowledge and acceptance of research ethics principles among investigators. Finally it's recommended further to conduct qualitative studies to explore the attitudes of postgraduate students towards research ethics and their role in research ethics which may aid in planning educational modules to improve ethical considerations in research.

Table 1: Distribution of students based on their awareness, knowledge and attitude about research ethics.

Variable	Response	Percentage of subjects
Knowledge	Correct answers	54.3
	Wrong answers	45.7
Awareness	Aware	38.55
	Unaware	61.45
Attitude	Positive attitude	87.17
	Unfavorable attitude	12.83

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