EVALUATION OF ETHICAL SENSITIVITY OF FRESHLY GRADUATED DENTISTS

Mohammad Ali Chughtai[1], Brekhna Jamil[2]

ABSTRACT

BACKGROUND: The aim of teaching ethics to the doctors is to make them recognize the humanistic and ethical aspects of medical careers. These days understanding of dentistry and its culture as a profession are in tension with understanding dentistry and its culture as a business. So ethics teaching and assessment should be given due importance. Therefore, this research work aimed to evaluate ethical sensitivity of freshly graduated dentists.

AIM: To evaluate ethical sensitivity of the freshly graduated dentists at the completion of bachelor's of dental surgery program in Sardar Begum Dental College.

METHODS: All freshly graduated dentists doing house job at Sardar Begum Dental College were formally invited to the Prosthodontics Department. After an informed consent taken related to their willingness for participation, data collection from each participant was obtained through a standardized questionnaire containing Vignettes/ scenarios.

RESULTS: Mean age of the participants was 23 years. About 53% freshly graduated dentists in the study were found to be ethically sensitive whereas, 47% were partially sensitive to ethics. Within the limitations of the study relation between ethical sensitivity of freshly graduated dentists and gender and class attendance of the participants was insignificant.

CONCLUSION: There is a need to do curricular modifications in terms of instructional strategies and assessment related to ethics teaching inorder to increase ethical sensitivity of our dental graduates. Due to an obvious association between ethics and patient care, it is important to assess ethical sensitivity of the students before they begin their clinical experiences.

KEY WORDS: Ethical sensitivity, ethics, vignettes, clinical scenarios.

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INTRODUCTION

The aim of professional education in dentistry is to educate good dentists, dentists equipped and well committed to help society in gaining the benefits of the oral health.[1] In order to achieve this intention, dental educators acknowledge that dental students must acquire complex knowledge base and sophisticated perceptual motor skills of dental profession.[1] But the graduation of knowledgeable and skilled clinicians in dentistry is not the only or sufficient condition for ensuring quality oral health care. Further requirement is the commitment of dental graduates to applying their abilities with honesty and integrity. That is providing quality care in their patient's best interest.[1] Thus it is not only justified but important to teach professional ethics in dentistry inorder to facilitate the personal and professional development of aspiring dentists into socially and professionally responsible human beings.[1]

The term "dental ethics" can be considered as a young field as it is hardly as old and popular as its counterpart Medical ethics, but is a necessary approach in bioethics.[2] When a freshly graduated dentist crosses the boundaries from dental school to dental clinic, they face conflicts related to ethical situations, which they may not know how to deal with.[3] Reason might be the fact that some dental ethics courses focus mainly on the theoretical aspects of ethics like rules and principles of conduct.[4] Whereas in contrast to the basic theoretical knowledge, students are then interacting with the patients in their dental clinics where

[1] Associate Professor, Sardar Begum Dental College, Peshawar Pakistan.
[2] Assistant Professor, Institute of Health Professions Education and Research, Khyber Medical University, Peshawar, Pakistan.

Address for correspondence:
Dr Mohammad Ali Chughtai
Associate Professor, Department of Prosthodontics, Sardar Begum Dental College, Peshawar, Pakistan.
E-mail: alichughtai80@yahoo.com
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ethical dilemmas are usually subtle, and a constant reflection on action is necessary to uncover these dilemmas.[4]

Over the last few decades' dental educators in different parts of the world have addressed the need for ethics training and examined varied teaching approaches.[5] Today state of the art ethics education has moved from purely didactic lectures to more interactional teaching methods that promote students' introspection and problem solving skills.[5] So as to create a balance between a basic ethical foundation and dental practice relevant to an optimal ethical curriculum in dentistry.[5] Many of these approaches are used in combination within courses.[5] Like role play and Problem-Based Learning (PBL) are valuable aid to add introspection to our ethics teaching.[6,7] Workshops, small group discussions and case based learning also provides an opportunity to the students to interact, discuss, present and defend their ethical believes.[8,9] About 80 % of the U.S dental schools utilize reflective writing exercises as an efficient tool for learning ethical conflicts.[10] Portfolios containing reflections and evidences of student learning also provide a scaffold to support ethical professional development overtime as well.[10]

Precise determination of assessing how many medical students have achieved mastery in the ethical domain is still unclear.[11] There are some underlying concepts of ethics, which may well be assessed using standard test formats like multiple choice tests.[11] Whereas at the other extreme, one might wish to observe students engaging in ethical decision making in real life situation, which is still very difficult to achieve. An alternative approach to assessing ethical sensitivity and or moral reasoning is to present students with case-based scenarios.[11] And students have to select the best response from among the short list of multiple choice answers (based on expert consensus, current legislation or standards set by licensing bodies) scores can be given to the responses based in the degree to which they match expert opinion as well as the degree to which the reasoning reflects the balanced considerations.[1]

In order to provide high-quality medical and dental services, standardized quality training programs and quality assurance systems are of paramount importance for better future outcome.[12]

Over the past few years bioethics has become an integral part of medical education worldwide.[13] But despite of being emphasized by Pakistan Medical and Dental Council code of ethics, that it should be taught in medical and dental colleges in Pakistan.[13,14] Unfortunately ethics teaching has still not found its way in formal medical and dental curricula.[13] In Pakistan bioethics is being taught as part of Behavioral Science and Community dentistry Curriculum in medical and dental colleges respectively.[15]

Similarly, Ethics teaching to Bachelors of dental surgery students is at the level of 2nd year primarily through conventional lectures and the mode of assessment is short answer questions added in the paper of community dentistry. But in real life clinical practice these students once become dentists, patient presented to them with different ethical issues and dilemmas. To solve those issues they need high order thinking.

So there was a need to evaluate whether our conventional teaching of ethics have activated adequate ethical sensitivity in our freshly graduated dentists. This was considered to be helpful to reinforce quality assurance in the curriculum of Sardar Begum Dental College regarding ethics teaching and its practicality. As this study is considered to provide an assessment of learning outcomes related to the ethics instructions provided to the students. So it was not only expected to provide a way to ensure whether our teaching of ethics is achieving desired learning outcomes or not. But also helps in deriving a mechanism for documenting the ethics knowledge of our dental graduates, setting goals and charting process towards improving learning outcomes. Ethical sensitivity is considered to be an emerging concept with potential utility in research and practice.[16] And the use of vignettes/scenarios may be one feasible method to show differences between medical students in the way they identify the ethical issues.[17] Also vignettes/scenarios are best suited in capturing the cognitive ability to recognize an ethical issue.[17] As such research work never was done in our country, so it helped in identifying ethical sensitivity of our freshly graduated dentists after being taught through conventional way of teaching.

METHODS

This cross sectional descriptive study was designed to evaluate ethical sensitivity of the freshly graduated dentists at the completion of bachelor's of dental surgery program in Sardar Begum Dental College. House officers who worked for at least three months in the clinical departments of Sardar Begum Dental College and hospital were formally invited to join the study through convenience sampling technique.

Data collection instrument was a pre validated scenarios based questionnaire named Dental Ethical Sensitivity Scale (DESS), having nine scenarios related to three domains of ethics i.e. Autonomy, Beneficence and confidentiality. DESS is having Content Validity Index 0.8. Test Retest Reliability of Dental Ethical Sensitivity Scale was 0.7 and Internal Consistency as measured by Cronbach Alpha to be 0.63. Values of Internal consistency within range of $0.6 \leq \alpha < 0.7$ are considered acceptable.[18]

These vignettes/scenarios designed to address the core issues of Autonomy, Beneficence and confidentiality/privacy, as highlighted in the Pakistan Medical and Dental Council (PMDC) curriculum. Each vignettes/scenario (in questionnaire)

has three most probable outcomes with one best option. We scored the responses of each scenario/vignettes as 2 to the best probable option, 1 to the second to best probable option and 0 to the wrong option. So maximum score was 18 and lowest score was 0.

The questionnaire was pilot tested on four subjects to streamline all the procedure. It went through minor modifications, based on the feedback from the pilot study. Sample subjects from pilot testing were eliminated from the study.

We classified our sample on the basis of percent passing score identified through Angoff's Method related to DESS, which is 83%. As total score in our study was 18, so 15 was the 83% of total score. And score 9 was the 50% of the total score. So, through joint consensus we came to the point to consider:

Ethically Sensitive: To those dentists, who scored 15 or above out of 18.

Partially sensitive: To those who scored 10-14 out of total score.

Insensitive: To those who scored 9 or less than out of total score.

Inorder to enhance credibility of the study it was presented in the 14th meeting of Advanced Studies & Research Board (ASRB) of Khyber Medical University. After approval from Advanced Studies and Research Board, proposal was submitted before Ethics and Research Board of Khyber Medical University to get it approved. As study population was freshly graduated Dentists of Sardar Begum dental college and Hospital Peshawar, so approval from the administration of Sardar begum Dental College has also been taken.

For study conduction house officers were formally invited to join research (who fulfills the inclusion/ exclusion criteria Table 1) after explaining the study objectives and duration. They were given assurance for maintaining confidentiality of their personal data and other information. After an informed consent been taken both verbally and in writing through consent form related to their willingness for, data from each participant was obtained through a standardized questionnaire. While filling up the questionnaire author has ensured the optimum environment for work. Data was collected in the early morning hours i.e. between 9am-10am, when house officer's minds are expected to be fresh. Each participant was given 20 minutes to fill the questionnaire. During this time they were not allowed to talk / discuss the issues among each other, only if any query appeared, research investigator was available to clear it to the participant.

Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 16.0. Descriptive statistics were used in the form of mean, standard deviation and minimum, maximum for quantitative data (i.e. age, ethical sensitivity score/level). While frequencies and percentages were found out for qualitative data (like gender and class attendance). Chi square test was applied to find out association between ethical sensitivity score/ level and gender. But more than two cells were having cell count less than five so, Fishers Exact test was used to found out association between ethical sensitivity score/level and class attendance.

RESULTS

Mean age of the participants was 23 years with range of 4. Total number of male participants in the study were 14 (28.6%) compared to 35 (71.5%) females.

Total score for ethical sensitivity was 18 with a mean score of 14.31. Maximum score achieved by the students was 18 while minimum score was 10. On the basis of ethical sensitivity score we classified 53% freshly graduated dentists as ethically sensitive compared to 47% partially sensitive to ethics. But there was no participant in ethically insensitive category (Table 2).

Total number of male dentists participated in the study was 14 (28.6%) while 35(71.5%) were females. Among the male participants group about 5(35.7%) were ethically sensitive and 9(64.3%) were partially sensitive to ethics. Whereas among the female participant group 21(60%) were ethically sensitive and 14(40%) were partially sensitive to ethics. The overall association between the gender and ethical sensitivity score was insignificant (Table 3).

The mean attendance during class lectures of the participants was 86.3% (Table 4). Among the total participants 8(16.4%) were having attendance between 51-75%, while 44.1(83.7%) participants were having attendance between 76-100%. Among the first group of having attendance /learning regularity between 51-75% about 4(50%) were ethically sensitive and 4(50%) were partially sensitive to ethics. In the other group having attendance between 76-100% 22(53.6%) were ethically sensitive while 19(46.3%) were partially sensitive to ethics. But the association between ethical sensitivity score and the students learning regularity in terms of attendance was insignificant according to Fisher's exact test (Table 5).

TABLE 1: SHOWING INCLUSION/ EXCLUSION CRITERIA FOR THE SAMPLE SELECTION IN THE STUDY

Inclusion criteria	• House officers who joined Sardar begum Dental College either at 1st year or at start of 2nd year and studied ethics in this institute. • House officers who worked at least for 3 months in clinical at Sardar Begum Dental College/ hospital Peshawar.
Exclusion critreria	• House officers who were not willing to fill consent form or refuse to join the study themselves. • House officers whose class attendance in community dentistry in 2nd year was less than 50% were also excluded from the study (in order to reduce bias in the study).

TABLE 2: MEAN, MINIMUM, MAXIMUM, STANDARD DEVIATION, NUMBER OF ETHICALLY SENSITIVE AND PARTIALLY SENSITIVE DENTISTS TO ETHICS, IN THE STUDY

Total ethical sensitivity score	Mean score achieved	Minimum Score achieved	Maximum score achieved	St .Dev	Range	Ethically sensitive subjects	Partially sensitive to ethics	Total Number (N)
18	14.31	10	18	2.11	8	26(53%)	23(47%)	49

TABLE 3: ASSOCIATION OF GENDER WITH ETHICALLY SENSITIVE AND SUBJECTS PARTIALLY SENSITIVE TO ETHICS IN THE STUDY

Gender	Ethically sensitive subjects	Partially sensitive to ethics	Total No within the gender groups of the participant	p-value	Df
Male	5(35.7%)	9(64.3%)	14(100%)	0.12	1
Female	21(60.0%)	14(40.0%)	35(100%)		

TABLE 4: MEAN MINIMUM, MAXIMUM, STANDARD DEVIATION OF CLASS ATTENDANCE/ LEARNING REGULARITY OF THE PARTICIPANTS IN THE STUDY

Mean attendance/ Student regularity	Minimum attendance /student regularity	Maximum attendance /Student regularity	Range	St.dev	Total
86.3%	57%	98.9%	1	10.05	100%

TABLE 5: ASSOCIATION OF CLASS ATTENDANCE/ LEARNING REGULARITY WITH SUBJECTS ETHICALLY SENSITIVE AND PARTIALLY SENSITIVE TO ETHICS IN THE STUDY

Attendance groups	Ethically sensitive subjects	Partially sensitive to ethics	Total No within the attendance group of participants	p-value	Df
Subjects having attendance between 51-75%	4(50%)	4(50%)	8(100%)	1.00	1
Subjects having attendance between 76-100%	22(53.6%)	19(46.3%)	41(100%)		

DISCUSSION

Ethical sensitivity is considered to be a concept with potential utility in research and practice.[14] There was immense need to evaluate whether our conventional teaching of ethics have activated adequate ethical sensitivity in our freshly graduated dentists, because such work never been done in our country before. So this was also considered helpful to reinforce quality assurance in the curriculum of Sardar Begum Dental College regarding ethics teaching and its practicality.

Mean age of the participants was 23.3 years with a range of 4 because these participants were belonging to the same academic session. About 53% dentists in this study were found to be ethically sensitive whereas, 47% were partially sensitive to ethics. But there was no dentist in ethically insensitive category. Freshly graduated dentists having partial sensitivity to ethics shows some controversies regarding our conventional teaching of ethics to the dental students.

Most probable reason for this high number of partial ethical sensitivity might be that there is neither any stand alone ethics course nor any systematic attempt been taken throughout the rest of years to reinforce ethics teachings beyond 2nd professional year. A curriculum renewal may help address this by introducing and integrating ethical training throughout four years of dental education. Our study results are in partial disagreement to those of Hebert et al, who also used vignettes based tool to evaluate ethical sensitivity of medical students in the University of Toronto. He claimed that sensitivity increases between 1st and 2nd professional years, because of ethics being recently taught.[19] But decreases throughout rest of the undergraduate years of medical education and sensitivity score of 4th year was even less than those entering medical

school.[19] Reason for this disagreement might be that in contrast to Hebert et al we have tested the ethical sensitivity only at the level of House job/ Internship whereas he studied and compared at different levels of Medical education.[19] But in overall our study shows a very minimal increase in ethically sensitive dentists i.e. only 6% as compared to dentists partially sensitive to ethical issues. Another study done by Sulmasy et al. also supports our findings who found that house officer's knowledge of ethics declined with postgraduate years.[20] Even the ethical competence of medical learners whether under or postgraduate will tend to decline.[20] So medical educators interested in cultivating the ethical sensitivity of medical trainees must learn how to correct this.[19] Another study conducted by Langille and colleagues is also in partial agreement to our study results. He used Dental Values Scale to determine relationship between practitioners and dental students and found out that first year students were higher in many professional values as compared to practitioners.[18]

Reason for the 53% ethically sensitive dentists in our study might be because our conventional teaching of ethics is a sort of opportunistic teaching. So, it is showing half response in terms of ethical sensitivity rather than 100% in the dental graduates. This can also be further elaborated by recently conducted study by Shehla Tahir and colleagues regarding perceptions of ethical issues encountered in undergraduate medical and dental education in Pakistan.[15] They identified a great number of differences in the knowledge and attitudes of Pakistani Doctors in medical ethics.[15] This is because in Pakistan existing didactic ethics teaching and assessment system has failed to inculcate ethical values in the students. They further claimed that even in areas where a satisfactory knowledge was recognized in her study among the participants, it cannot be assumed that it was due to curriculum coverage. Rather it might be due to some cultural osmosis, peer learning and media effects that had transgressed in the minds of the students.[15] Therefore gaps in their knowledge and attitude could be ascribed to the deficiencies in curriculum.[15]

We found insignificant relation between gender and ethical sensitivity score; reason might be more the number of females (71.5%) compared to male (28.6%) participants in this study. But our results are in agreement to those of Hebert et al, vignettes based ethical sensitivity evaluation at University of Toronto.[19] He also found insignificant relation between gender and ethical sensitivity.[19] Another study done by Self and colleagues about the effect of teaching medical ethics on medical students' moral reasoning also support our findings.[21] Our results are in agreement too to those of Berseth and Durand who also found insignificant relation between gender and moral decision making.[22]

We studied relation of students lecture attendance which infact is considered to be student participation or willingness to learn, with the ethical sensitivity in two groups i.e. those having attendance between 51-75% and other between 76-100%. But amazingly we found highly insignificant results which show that our conventional (didactic lecture based) ethics teaching has insignificant effect on student's ethical sensitivity. Reason might be as Petterson highlighted through his study that hiding of ethics within other courses may result in students perceiving ethics as unimportant.[23] For this reason, more intensive approaches to ethics teaching should be advocated.[23] Another reason for this insignificant relation between ethical sensitivity and frequency of attending lectures by the students may be that occasional lectures about ethics patched with the subject of community dentistry throughout a year may lead to our dental student's perception about it as unimportant.

Our study results are in agreement to those of Sulmasy et al. who assessed relative effects of two methods for ethics teaching i.e. lecturing and case-study discussions. They found out that the case study method was significantly more effective than the lecture method in increasing student's level of moral reasoning.[24] So today state of the art ethics education has moved from purely didactic lectures to more interactional teaching methods that promote students introspection and problem solving skills.[5] In the light of our study results we can predict that our conventional lecture based teaching of ethics makes no significant difference between dental students who have attended half of the lectures compared to those whose attendance was more towards 100 percent. So we need to move from conventional didactic lecturing towards other latest approaches for ethics teaching like case based discussion, Role playing and Problem based learning inorder to increase ethically sensitive dentists.

Like other domains of clinical competence, ethics can be evaluated in three areas i.e. knowledge, attitudes and behavior. But in this study through the use of vignettes we are addressing only a portion of cognitive component of ethics, because present teaching system focuses only the cognitive type of knowledge through didactic lectures. So in future follow up studies we hope to elaborate this vexing domain of assessing ethical sensitivity to the level of attitude and behavioral evaluation

CONCLUSION

About 53% dentists in the study were found to be ethically sensitive whereas, 47% dentists were partially sensitive to ethics. Within the limitations of the study relation between ethical sensitivity of freshly graduated dentists and gender of the participants was insignificant. Insignificant relation was also found between students attendance/ regularity during

academic activities related to ethics and their ethical sensitivity score. This shows that our conventional ethics teaching has made insignificant effect on ethical sensitivity of our freshly graduated dentists. So this issue needs to be addressed by curricular modifications in terms of instructional strategies and assessment related to ethics teaching to get significant effect on ethical sensitivity of our dental graduates.

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CONFLICT OF INTEREST

Authors declare no conflict of interest.

ETHICS APPROVAL

The approval/permission was obtained from Khyber Medical University Research and Ethics Board.

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