

Original Research Article

Ethical Considerations in Dentistry; A Survey-Based Study to Assess the Perception and Attitude of REU Dental Students

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Introduction: Dental treatment is based on complete trust and dependence of the patient towards the dentist. Therefore, it poses a great deal of responsibility on a dentist's shoulder to provide the best possible care for the patients. **Materials and methods:** This is a cross-sectional study, which utilized a closed-ended questionnaire. The questionnaire was constructed online using Google forms and began with questions related to demographics, including gender and educational level. **Results:** A total of 509 participants, male and female students of various levels filled the survey which comprised of n=165 (32%) males and n=344 (68%) females. The participants were also subdivided on the basis of levels which comprised of n=68 (13%) from level 9, n=154 (30%) level 10, n=118 (23%) level 11 and n=166 (33%) level 12 students. **Conclusions:** Overall knowledge of higher-level dental students was found to be satisfactory, but the lower level of students lacked ethical knowledge. The differences between these were found to be statistically significant.

Keywords: Ethical dentist, Decision making, Dental students.

INTRODUCTION

The word ethics is derived from the Greek word 'ethos', which means having a good set of moral principles that are required for a person to exhibit decent behavior. Ethics in healthcare is as essential as any obedience to law or regulation. Both these entities are important in making a healthcare delivery system trustable and humanitarian (Hall et al, 2018). Healthcare comprises of multiple dimensions where decision making is required at each step. Every decision that is made by a healthcare professional will determine the quality of care received by the patient, who increases the importance of ethics, many folds (Fleetwood, 2017).

Dental treatment is based on complete trust and dependence of the patient towards the dentist. Therefore, it poses a great deal of responsibility on a dentist's shoulder in order to provide the best possible care for the patients. Treating patients for their chief complaint only should not be considered as a job done for a dentist. It is imperative for dental professionals to build and maintain an ethical and professional relationship with the patient in order to provide them with a high level of satisfaction (Beemsterboer, 2016).

Dentistry includes various procedures that are conducted to improve the esthetics of patients. These procedures are being marketed and advertised using social media and brochures as

well. However, several dental businesses promote these services in a way that the actual product is far away from reality. These methods of attracting patients to their clinics are usually done to acquire profits in an unethical manner. Care should be taken by dental health professionals to avoid keeping the patients unaware of the facts related to their esthetic treatment (Imre et al, 2018; Obradovic Duricic et al, 2017).

Another issue in dentistry related to ethical considerations includes keeping the patients' information confidential. One of the basic ethical principles in medical care is to safeguard patients' self-respect and integrity by maintaining a sense of confidentiality between two parties. Dental patients may present with a scenario when visiting a dentist, which includes personal information or any sign related to physical abuse. Furthermore, patients may be uncomfortable in disclosing some information about their medical and drug history. This makes the need of building a professional relationship with patients mandatory (Murariu et al, 2016; Barrett, 2015).

The above-mentioned issues as well as other related ethical problems should be discussed and their solutions must be taught to the undergraduate dental students during their training. Several investigations have taken place to determine

the level of ethical sensitivity among dental professionals. A study from India revealed a poor level of ethical knowledge among dental trainees as the majority of them were not aware of the ethical responsibilities. Moreover, they reported that the source of their limited ethical knowledge was the internet mainly (Janakiram & Gardenrs, 2014). Similar findings were observed when a research conducted in Pakistan among the undergraduate dental students was cited. The study subjects revealed that nearly half of them did not recall the term 'bioethics' when they reached their final year of dental education (Tahir et al, 2012).

Another investigation conducted in Spain revealed that the professional development of students was required during their initial years of dental education. These students lacked in decision making and needed a thorough incorporation of ethical education (De Freitas et al, 2006). Faculty involved in dental education must be aware of the importance of professional development of students and must be able to provide them the required ethical training (Christie, Bowen & Paarmann, 2007).

It is important for dental educators to incorporate bioethics in undergraduate dentistry at incremental levels so that the students may be benefited from the information provided to them. One of the important steps in developing this mode of knowledge delivery is to understand the cultural as well as religious factors and their impact on bioethics. However, ethical sensitivity in the business of dentistry is almost similar throughout the world (Yasmin, 2016; Janakiram et al, 2016).

NEED FOR THE STUDY

Dental students are in the learning stages of their careers, which makes it crucial for them to practice ethically especially requiring points to complete their clinical requirements. Their actions may be targeted towards achieving the desired goals of completing their quota of requirements rather than delivering quality and reliable treatment to the patients. Therefore, we intend to examine the level of ethical sensitivity of these students towards their profession.

STUDY HYPOTHESES

Dental students' knowledge of bioethics is inadequate.

AIMS OF THE STUDY

- To determine the level of knowledge among dental students regarding ethics in dentistry.
- To determine the attitudes of dental students towards dental bioethics when treating patients in clinics.
- To compare the findings on the basis of the level of dentistry and gender.

MATERIALS AND METHODS

Study Design

This is a cross-sectional study, which utilized a closed-ended questionnaire.

Questionnaire Design

The questionnaire was constructed online using Google forms and began with questions related to demographics, including gender, educational level. Furthermore, questions were asked

about the knowledge level of dental bioethics, scenarios based on different ethical cases, attitudes of students towards those scenarios, etc.

Study Sample

This study was targeted towards the dental students of Riyadh Elm University and a total of 500 REU students were aimed to be included in this study. However, we were able to collect more. The survey was sent using online communication including Whatsapp and student emails.

Validity and Reliability of the Questionnaire

The questionnaire was sent to the experts in research, which include a few faculty members of REU in order to confirm the validity. As far as the reliability is concerned, a pilot study was conducted using 20 online questionnaires filled randomly by university students. Reliability was tested using Chronbach's coefficient alpha in the Statistical Package for Social Sciences (SPSS) version 19.

Statistical Analysis

Collected data were transferred from Google sheets to SPSS version 19, where descriptive as well as inferential statistics were conducted. Comparisons between groups were made with the value of significance kept under 0.05.

RESULTS

A total of 509 participants males and females students of various levels filled the survey which comprised n=165 (32%) males and n=344 (68%) females. The participants were also subdivided on the basis of levels which comprised of n=68 (13%) from level 9, n=154 (30%) level 10, n=118 (23%) level 11 and n=166 (33%) level 12 students. Chi-square test was done to achieve the comparison between the groups.

Validity and Reliability of the Questionnaire

According to the experts in REU, we made minor changes to our questionnaire before we distributed it to the study participants. As far as the reliability is concerned, we performed Chronbach's coefficient alpha in SPSS and the value retrieved was 0.83, which is acceptable to carry out the data collection after the pilot study.

DISCUSSION

This study aimed to assess the level of ethical sensitivity of dental students towards their patients. We divided the study sample based on gender and levels of dentistry, which were then compared with one another. When comparing the genders, statistically significant differences were observed when inquired about awareness of the word ethics (p-value: 0.000), the importance of patients' satisfaction more than the clinical points (p-value: 0.000), whether students inform their patients about clinical mishap (p-value: 0.025), performing experimental procedures on patients (p-value: 0.000), providing patients with expensive unsuitable treatment and explaining the side effects of a procedure (p-value: 0.000), informing the patients about long treatment duration in REU clinics (p-value: 0.000). Regarding the above-mentioned comparison, females showed a significantly higher level of ethical knowledge as compared to males.

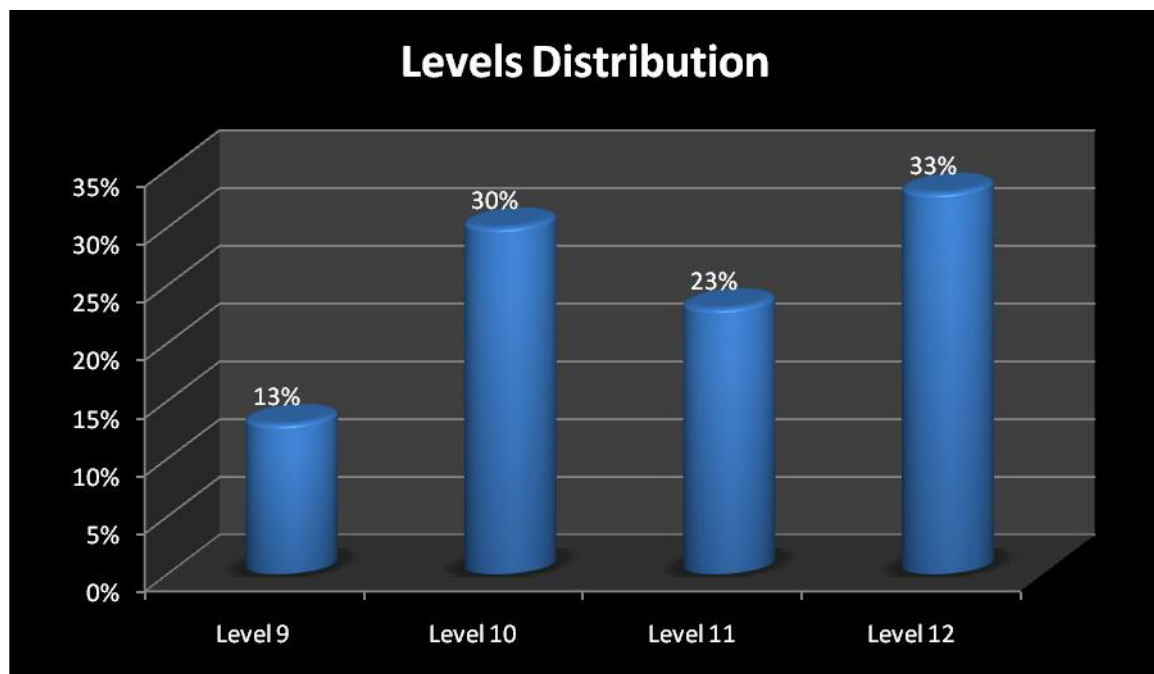
Fig. 1: Level Ratio**Fig. 2: Level Ratio**

Table 1: Comparison on the basis of gender

Item	Male	Female	P-Value
Are you aware of the word ethics?	Not Aware 4% Somewhat Aware 32% Very Much Aware 64%	Not Aware 3% Somewhat Aware 15% Very Much Aware 82%	0.000
Ethics is essential in running a dental practice.	Not Important 0% Somewhat Important 12% Very Important 88%	Not Important 0% Somewhat Important 11% Very Important 89%	0.884
Patient's satisfaction is more important than my clinical points?	Not Important 0% Somewhat Important 38% Very Important 62%	Not Important 0% Somewhat Important 23% Very Important 77%	0.000
Inform the patient about any clinical mishap?	Never 5% Sometimes 36% Always 58%	Never 4% Sometimes 25% Always 70%	0.025
Can share patient's private information with other patients?	Never 84% Sometimes 13% Always 3%	Never 83% Sometimes 12% Always 5%	0.602
Can perform experimental procedures on my patients?	Never 56% Sometimes 36% Always 7%	Never 80% Sometimes 16% Always 4%	0.000
If patient wants expensive 'unsuitable' treatment, I will do it?	Never 59% Sometimes 36% Always 5%	Never 80% Sometimes 14% Always 6%	0.000

Explain the side effects and cost details of procedure before I start?	Never 10%	Never 2%	0.000
	Sometimes 19%	Sometimes 22%	
	Always 71%	Always 76%	
Inform the patient about long duration of treatment in dental school?	Never 4%	Never 2%	0.000
	Sometimes 28%	Sometimes 13%	
	Always 68%	Always 85%	
I need more information on dental ethics?	Yes 44%	Yes 53%	0.170
	May be 40%	May be 32%	
	No 16%	No 15%	

Table 2: Comparison on the basis of Level

Item	Level 9	Level 10	Level 11	Level 12	P- Value
Are you aware of the word ethics?	Not Aware 11%	Not Aware 3%	Not Aware 3%	Not Aware 0%	0.000
	Somewhat Aware 32%	Somewhat Aware 27%	Somewhat Aware 31%	Somewhat Aware 2%	
	Very Aware 58%	Very Aware 69%	Very Aware 65%	Very Aware 98%	
Ethics is essential in running a dental practice.	Not Important 0%	Not Important 0%	Not Important 0%	Not Important 0%	0.000
	Somewhat Important 36%	Somewhat Important 12%	Somewhat Important 8%	Somewhat Important 2%	
	Very Important 64%	Very Important 88%	Very Important 92%	Very Important 98%	
Patient's satisfaction is more important than my clinical points?	Not Important 0%	Not Important 0%	Not Important 0%	Not Important 0%	0.000
	Somewhat Important 48%	Somewhat Important 45%	Somewhat Important 28%	Somewhat Important 5%	
	Very Important 52%	Very Important 55%	Very Important 72%	Very Important 95%	
Inform the patient about any clinical mishap?	Never 6%	Never 6%	Never 3%	Never 4%	0.000
	Sometimes 46%	Sometimes 36%	Sometimes 40%	Sometimes 8%	

	Always 48%	Always 58%	Always 57%	Always 89%	
Can share patient's private information with other patients?	Never 64%	Never 81%	Never 82%	Never 94%	0.000
	Sometimes 25%	Sometimes 16%	Sometimes 15%	Sometimes 3%	
	Always 10%	Always 4%	Always 3%	Always 3%	
Can perform experimental procedures on my patients?	Never 52%	Never 62%	Never 62%	Never 98%	0.000
	Sometimes 37%	Sometimes 31%	Sometimes 33%	Sometimes 1%	
	Always 10%	Always 7%	Always 5%	Always 2%	
If patient wants expensive 'unsuitable' treatment, I will do it?	Never 59%	Never 67%	Never 61%	Never 93%	0.000
	Sometimes 30%	Sometimes 31%	Sometimes 30%	Sometimes 3%	
	Always 11%	Always 2%	Always 9%	Always 4%	
Explain the side effects and cost details of procedure before I start?	Never 3%	Never 3%	Never 1%	Never 9%	0.000
	Sometimes 31%	Sometimes 25%	Sometimes 29%	Sometimes 7%	
	Always 66%	Always 72%	Always 70%	Always 84%	
Inform the patient about long duration of treatment in dental school?	Never 4%	Never 5%	Never 2%	Never 0%	0.000
	Sometimes 40%	Sometimes 25%	Sometimes 17%	Sometimes 1%	
	Always 55%	Always 69%	Always 81%	Always 99%	
I need more information on dental ethics?	Yes 34%	Yes 36%	Yes 39%	Yes 77%	0.000
	May be 45%	May be 47%	May be 40%	May be 16%	
	No 21%	No 17%	No 21%	No 7%	

Similar findings were obtained by a study conducted by Ilguy, Ilguy&Oktay (2015), when they observed a group of fourth-year dental students.

Another study conducted among the dental students revealed a higher level of knowledge about dental ethics but lacked the attitude towards the implementation of the knowledge in clinical practice (Khan, Liwe & Omar, 2016). Our study reports somewhat similar findings as the students do exhibit satisfactory knowledge, but the practical use of this information was not observed when asked questions related to clinics.

The second part of the study findings was the comparison of survey responses based on students' dentistry levels. It was observed that there was a statistically significant difference in the knowledge and attitude of dental students when inquired about the awareness of the word ethics (p-value: 0.000), the importance of ethics in running a dental practice (p-value: 0.000), informing the patient about clinical mishap (p-value: 0.000), sharing patients' information with other patients (p-value: 0.000), performing experimental procedures on patients (p-value: 0.000) and other questions as well. All of the above-mentioned differences revealed that the level 12 students had better knowledge and their attitude was also positive towards dental ethics. It can be argued that the higher-level students having exposed more to the clinical environment tend to have better ethical knowledge. This was also reported by Hertrampf et al (2018), who observed a stronger influence of clinical experience among students at higher dentistry levels.

Our study findings showed that the knowledge of ethics increased from a lower level of students to higher. However, contrary results were observed from a study conducted among different levels of dental students in The Netherlands (Brands, Bronkhorst&Welie, 2010). A higher level of dental students also revealed that they should not perform unsuitable or unwanted treatment for patients, which was also reported by a study finding done by Kazemian et al (2015).

There is a need of incorporating programs promoting ethical issues in the dental curriculum. Ethical commitment should be taught to create a sense of social responsibility. Teaching practices should also be reviewed to ensure that the dental program commits to the safety of patients visiting the teaching hospitals (Alcota, De Guana& Gonzalez, 2012). Ethics can be taught to dental students in the form of classroom discussions including clinical scenarios and lectures (Sharp & Stefanac, 2004).

CONCLUSIONS

- Overall knowledge of higher level of dental students was found to be satisfactory, but the lower level of students lacked ethical knowledge. The differences between these were found to be statistically significant.
- Application of this ethical knowledge was found to be highly common among the higher level of dental students, whereas the lower dentistry level students showed an unsatisfactory level of clinical application.
- There is a need of educating dental students about the importance of ethical responsibilities during the initial years of dental education to improve their clinical application when they begin their training.

CONFLICT OF INTEREST

There is no conflict of interest among the authors for this publication.

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Time frame

Phases	Tasks	From-To
Writing Proposal	Making Questionnaire	Week 3-4
Collecting data	Distributing questioners	Week 5-9
Organizing data	Recording data	Week 10
Analyzing data	Data tabulation	Week 11
Writing report	Putting it together	Week 12-13