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Awareness, knowledge, and attitude of dentistry students in Kerman towards evidence-based dentistry

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Abstract

Introduction: Evidence-based care helps dentists provide quality dental services to patients, and such care is based on the use of reliable information about treatment and patient care from a large number of papers, books, and published textbooks. This study aimed to determine the knowledge, awareness, and attitude of dentistry students towards evidence-based dentistry.

Methods: In this cross-sectional study, all dentistry students who were studying in their sixth semester and higher in the Kerman School of Dentistry (n = 73) were studied. The data were analyzed using SPSS version 17 and the independent-samples t-tests and the ANOVA test.

Results: The means of the students' knowledge, awareness, and attitude scores were 29.2 ± 10.8, 29.9 ± 8.12 and 44.5 ± 5.3, respectively. Among demographic variables, only the number of semesters showed a significant difference with knowledge, awareness, and attitude of dentistry students toward evidence-based dentistry (p = 0.001).

Conclusion: According to the results of this study, knowledge and awareness of dentistry students at Kerman University of Medical Sciences towards evidence-based dentistry were average and have a neutral attitude. Thus, providing necessary training in this regard will cause promoting the knowledge, awareness, and improved attitudes of dentistry students.

Keywords: evidence-based dentistry, attitude, knowledge, awareness

1. Introduction

Today, providing health care services in all areas of medical sciences based on Evidence-Based Practice has become common (1). Two basic principles of evidence-based practice include acting on the basis of research resources and evaluation, analysis, and interpretation based on specific practices (2). There are various reasons that clinical dentistry has become much more complex and challenging, such as the explosion of information in the field of dentistry, extensive changes and advances in the area of equipment and materials used in dentistry, emphasizing the development of specialized training in the area of dentistry, and the increased awareness of service receivers (2, 3). Although evidence-based practice was first introduced in the medical field, it quickly included other fields dependent on Medical Sciences, including Dentistry (2, 3). The American Dental Association (ADA) defines evidence-based dentistry (EBD) as "an approach to oral healthcare that requires the judicious integration of systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences (4). According to evidence-based dentistry of New Zealand: evidence-based dentistry is a combination of clinical experience, evidence, and credible research documents with regard to providing the best service to needy patients (5). In fact, one of the main purposes of evidence-based dentistry is an orientation of selection and use of valid information among a large number of published papers, books, and references (6).

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Previous research has attempted to provide useful information in the area of evidence-based dentistry to researchers and scientists. Yusuf et al. (2008) investigated the knowledge of 193 dentists in Malaysia concerning evidence-based dentistry and its use in the clinical environment (1). Their results showed that Malaysian dentists have adequate knowledge and positive attitudes toward evidence-based dentistry, and a high percentage of dentists in the country believe that the use of evidence-based dentistry has increased their clinical knowledge and skills (1). The dentists in this study stated three main obstacles of the use of evidence-based dentistry as the lack of time, economic limitations, and low knowledge (1). Haron et al., in another study, investigated the knowledge, awareness, and function of dentists in Kuwait towards evidence-based dentistry. The results of their study showed that dentists in Kuwait do not have adequate knowledge and awareness concerning evidence-based dentistry. According to the results, Kuwaiti dentists prefer more to act based on their clinical judgment instead of using scientific resources and documents (7). According to previous research in the field of evidence-based dentistry, training related to evidence-based dentistry should be given in dentistry schools and to the field dentistry students. Dentistry schools are expected to provide facilities to train thoughtful graduates who are able to solve problems and use new research findings in order to always be learners during their lifetimes (6). In order to provide dentistry students with correct and principled training in this regard, knowing their knowledge, awareness, and attitude towards evidence-based dentistry is essential, but such information is very limited in this field. Khami et al. (2010) investigated the knowledge, awareness, and attitude of dentistry students in Tehran and Shahid Beheshti Dentistry Schools towards evidence-based dentistry (8). According to the results of this study, despite the positive attitudes of dentistry students toward evidence-based dentistry, their knowledge and awareness in this regard are poor (8). As mentioned earlier, knowing the level of knowledge, awareness, and attitude of dentistry students is necessary for properly planning their training. Therefore, regarding the lack of evidence-based dentistry studies of dentistry students, the present study was designed and implemented with the aim of investigating the knowledge, awareness, and attitude of dentistry students at Kerman University of Medical Sciences towards evidence-based dentistry.

2. Material and methods

2.1. Study setting and selection criteria

This cross sectional study was implemented in 2013 in the School of Dentistry, Kerman University of Medical Sciences. In order to collect information, all dentistry students of in their sixth semester and higher (n = 73) were entered the study. Dentistry students were reminded that participating in the study was voluntary, and an appropriate opportunity to complete a questionnaire was given to the dentistry students; after answering all of the questions, the students returned the questionnaire to the researcher.

2.2. Data collection and measurement tool

For data collection, we used the knowledge, awareness, and attitude standard questionnaire (Cronbach's Alpha: 0.87). This questionnaire contained 31 questions, and questions 9, 10, and 12 related to knowledge, awareness, and attitude, respectively. Also, we used a demographic questionnaire to measure the students' baseline information. The first part of the questionnaire included questions related to the participants' demographic information, such as age, gender, and semester number. The second part was questions related to investigating dentistry students' overall awareness and information about evidence-based dentistry. In this part, there were 10 questions that were scored based on a Likert scale, i.e., "very low, low, average, high and very high." The minimum score in this part was 10, and the maximum score was 50. A score between 12 and 23 indicated low awareness, 24 to 37 indicated average awareness, and higher than 37 indicated high awareness. The third part of the questionnaire concerning evidence-based dentistry was measured by presenting technical information in this field. This part included nine questions that were scored based on a Likert scale of 1 to 5. The scores in this part ranged from 9 to 45. A score between 12 and 21 indicates low knowledge, between 22 and 34 indicated average knowledge, and scores higher than 34 indicated high knowledge. In the fourth part, there were questions related to the dentistry students' attitudes. This part included 12 questions that were scored based on a Likert scale as "strongly agree, agree, no idea, disagree, and totally disagree." In this part, the minimum score was 12, and the maximum score was 60. A score between 12 and 28 indicated a negative attitude, between 29 and 45 indicated a neutral attitude, and higher than 45 indicated a positive attitude.

2.3. Reliability and validity of measurement tool

The validity and reliability of each of the three questionnaires of attitude, awareness, and knowledge in previous studies conducted on dentistry students were determined as having desirable levels (8).

2.4. Data analysis
The data were analyzed using SPSS version 17 and the independent–sample t-test and Anova, and the level of significance was set to 0.05.

2.5. Ethical consideration
This study was approved and financially supported by Kerman University of Medical Sciences (ref. no.: 92.226). Also, it received the approval of the Ethics Committee of Kerman University of Medical Sciences (Ref. no.: ka/92/338).

3. Results
3.1. Demographic characteristics
The demographic professional characteristics and gender distribution of the dentistry students were almost equal. Seventy-three students participated in the study, consisting of 37 males and 36 females, and their average age was 22.8 ± 1.4. More than 90% of the participants were between 20 and 25 (Table 1).

Table 1. Demographic and professional characteristics of the students

Students' Characteristics		n (%)
Gender	Male	37 (50.6)
	Female	36 (49.4)
Age	20-25	67 (95.8)
	25-30	3 (4.2)
Number of Semesters	6	6 (8.2)
	7	15 (20.5)
	8	3 (4.1)
	9	10 (13.7)
	10	8 (11)
	11	22 (30.1)
	12	7 (9.6)

3.2. Descriptive analysis of dentistry students in knowledge, awareness and attitude
The means of the students' knowledge, awareness, and attitude scores were 29.2 ± 10.8, 29.9 ± 8.12, and 44.5 ± 5.3, respectively. The independent–sample t-test results showed no significant difference in the means of students' awareness, attitude, and knowledge scores between females and males ($p = 0.64$, $p = 0.36$, $p = 0.51$, respectively).

3.3. Descriptive analysis of awareness about evidence-based dentistry
The average score of awareness of evidence-based dentistry of female dentistry students was higher than male dentistry students (30.5 versus 29.4). Also, the average score of female dentistry students of questions related to knowledge about evidence-based dentistry was higher than male dentistry students (30.2 versus 28.2), but the independent–sample t-test results showed no significant difference in this regard ($p > 0.05$).

3.4. Descriptive analysis of attitude toward evidence-based dentistry
The average score of male dentistry students' answers to questions related to attitude about evidence-based dentistry was higher than female dentistry students (44.9 vs. 44.1), but the results showed no significant difference ($p > 0.05$).

3.5. Descriptive analysis of awareness toward evidence-based dentistry
ANOVA test results showed a significant difference toward awareness of evidence-based dentistry among dentistry students with different academic semesters, with greater awareness among dentistry students in semesters 11, 12, 7, 10, 9, 8, and 6, respectively ($p = 0.001$). ANOVA results showed a significant difference toward attitude about evidence-based dentistry among dentistry students with different academic semesters so that better attitude was seen among dentistry students in semesters 11, 7, 8, 10, 12, 9, and 6, respectively ($p = 0.03$). ANOVA test showed a significant difference toward knowledge about evidence-based dentistry among dentistry students with different academic semesters so that more knowledge was seen among dentistry students in semesters 11, 7, 12, 8, 9, 10, and 6, respectively ($p = 0.001$).

3.6. Descriptive analysis of attitude toward evidence-based dentistry

ANOVA test results showed no significant difference toward attitude about evidence-based dentistry among dentistry students with different academic semesters so that more attitude was seen among dentistry students in semesters 11, 8, 7, 10, 12, 9, and 6, respectively ($p = 0.030$).

3.7. Descriptive analysis of knowledge toward evidence-based dentistry

ANOVA test results showed significant difference toward knowledge about evidence-based dentistry among dentistry students with different academic semesters so that more attitude was seen among dentistry students in semesters 11, 7, 12, 8, 9, 10, and 6, respectively ($p = 0.000$).

4. Discussion

Today, acting on the basis of credible evidence has been introduced as the gold standard in fields dependent on medical sciences (9). This also applies in the case of dentistry and has led to the introduction of evidence-based dentistry discussion. Evidence-based dentistry is an essential tool that is used for promoting the quality of services provided to patients and filling the gap between what we know, what is possible, and what we do (10). In order to have evidence-based practice in clinical dentistry, most of the needed training and skills should be taught in schools of dentistry in academic years. For this purpose, knowing knowledge and awareness level of dentistry students studying in this field, and their attitudes towards this issue for a proper planning is necessary. Therefore, this study was designed and implemented with this purpose in the Kerman School of Dentistry. The results of the present study showed that dentistry students studying at Kerman University of Medical Sciences toward evidence-based dentistry have average knowledge, average awareness, and a neutral attitude. This finding is consistent with Khademi et al.'s study. Their study of dentistry students also had average knowledge and awareness towards evidence-based dentistry (8). Khademi et al. recommended that providing evidence-based training courses at Schools of Dentistry is necessary (8). But in a study in India, Prabhu et al., in investigating knowledge and attitude of dentistry students towards evidence-based dentistry, reported that dentistry students in India have a positive attitude and relatively high knowledge towards evidence-based dentistry, which was different from the findings obtained in this study (11). One of the reasons for this difference may be related to the difference in education systems and education in different countries. Also our questionnaire tool was similar to that used by Khademi et al., but Prabhu et al. used another tool to collect information. Also, the results of our study are slightly different from Nabavi et al.'s study, which examined Iranian dentists participating in the Congress of Iran Dentistry Association about evidence-based dentistry and its use in the clinical environment (12). The results of this study indicated that a high percentage of Iranian dentists do not have enough knowledge about evidence-based dentistry. They stated that Iranian dentists use incorrect methods to update their scientific information (12). In another study, awareness level of evidence-based dentistry and its use by residents studying in Mashhad University of Medical Sciences were investigated (6). According to the results, 96% of dental assistants believe that the use of evidence-based dentistry in care of patients will have better clinical results. However, only 5% of the assistants who participated in the study acknowledged that they use evidence-based dentistry in their clinical practice (6). So, the researchers of the mentioned study suggested that the dentistry educational curriculum should be modified based on evidence-based dentistry (6). In another study in 2012, Sabounchi et al. investigated faculty members' knowledge and attitude of the country's seven Schools of Dentistry. The results of their study showed that dentistry professors have average knowledge and desirable attitudes toward evidence-based dentistry that is somewhat similar to the findings obtained in the present study (13). The results of studies on dentistry students of other fields related to medical sciences also show similar results with the findings of the present study. In a study in 2011, Sadeghi et al. investigated the knowledge level of medical residency dentistry students studying at Kerman University of Medical Sciences toward evidence-based medicine. The results of their study showed that a low percentage of these dentistry students have sufficient knowledge related to evidence-based medicine. Sadeghi et al. introduced the reason for the low level of knowledge as the lack of an educational curriculum designed on the basis of evidence-based medicine (14).

5. Conclusions

This study showed that knowledge and awareness of dentistry students at Kerman University of Medical Sciences towards evidence-based dentistry were average and that they have a neutral attitude. Also, it is suggested that researchers in these fields investigate the effect of training workshops on attitude, knowledge, and awareness of dentistry students and provide conditions required to receive the trainings in dentistry schools.

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Conflict of Interest:
There is no conflict of interest to be declared.

Authors' contributions:
All authors contributed to this project and article equally. All authors read and approved the final manuscript.

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