

# Dental Students' Attitude towards Clinical Education in Kerman (Iran) Dental School

Fatemeh Sadat Sajadi<sup>1\*</sup>, Maryam Salahi<sup>2</sup>, Ali Mohamad Salahi<sup>3</sup>

<sup>1</sup>Pediatric Dentistry, Faculty of Dentistry, University of Medical Sciences, Kerman, Iran

<sup>2</sup>Pediatric Dentistry, Faculty of Dentistry, Kerman University of Medical Sciences, Kerman, Iran

<sup>3</sup>Dentistry, Faculty of Dentistry, Kerman University of Medical Sciences, Kerman, Iran

\*Corresponding author: fsajadi1234@gmail.com

**Abstract Introduction:** Evaluating the students' attitude towards clinical training, the authorities can prioritize their educational needs and consequently improve the quality of clinical education programs. The aim of this study was evaluation of Kerman dental students' attitude towards clinical education in different departments. **Method:** In this cross-sectional descriptive-analytical study, 90 dental students of Year 3- 5 at Kerman School of Dentistry were enrolled by census. Data was collected by using a questionnaire. The questionnaire was designed to cover three areas including clinical learning opportunities (6 questions), scientific activities learned (7 questions), and student-instructor interaction (8 questions). Descriptive and analytical tests were used and SPSS Software 19 was employed with the significance level set at 0.05. **Results:** The mean  $\pm$  SD age of participants was  $32.6 \pm 1.3$ , 43.3% of which were male and 56.7% were female. The average scores of 76.7% of them were 14-17. The mean  $\pm$  SD score of students' attitude towards clinical education was  $2.93 \pm 0.64$ . The results revealed no significant difference between sex, the average scores and in different academic years with students' attitudes about clinical education in different departments. **Conclusion:** Kerman dental students have relatively positive attitude towards clinical education in this college. However, improving the facilities and equipment in some departments can help enhance the clinical education quality.

**Keywords:** clinical training, dental students, attitude

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## 1. Introduction

Clinical education is a dynamic process through which the students practically employ the theoretical concept that they have learning interaction with the clinical coach and environment. Due to the large number and broad dimensions of clinical courses, clinical education demands special attention [1].

Learning is affected by several variables such as the student himself, tutor, staff, interpersonal relations, attitudes, learning atmosphere, facilities, equipment and physical structure of the department [2]. These factors must be evaluated to make sure that the clinical environment is helpful and conducive to learning.

The education quality can best be assessed over the students' domain since they are the target group of educational programs [3]. By evaluating the students' attitude towards clinical training, the authorities can prioritize their educational needs and consequently improve the quality of clinical education programs. With evaluation of student's viewpoint towards clinical education you can prioritize their training needs and promote educational programs. Also tutors should have certain characteristics to motivate students on the right track of clinical education [4].

In a survey by Ramazani et al. in Zahedan School of Dentistry, the 5<sup>th</sup> and 6<sup>th</sup> year students believed that clinical education is relatively good in their college [5]. Sanatkhanian et al. conducted a study in Mashhad and found that dental students' attitude was positive towards clinical education method, clinical instructors' performance, as well as the facilities and equipment of educational environment [1].

In Ireland, Polyzios et al. announced that dental students and professors believe the clinical education in their school to be favorable [6]. Likewise, Henzi et al. reported American and Canadian dental students' attitude to be positive about clinical education in their college [7]. Another study by Borhan Mojabi in Qazvin, Iran, demonstrated that the students believe the clinical education to be good in departments of oral diseases, radiology, pathology, pediatric dentistry, and fixed prosthodontics; while it was average in other departments [8].

Dentistry is one of the important fields of medical sciences; thus, enhancing the quality of dental clinical education directly improves the oral/dental health of people [8]. Since dentistry is a mainly clinical major in which receiving adequate skills and training is highly important in the graduate students' performance in society and it would consequently promote the oral and dental health system. Because the educational system, equipment

and performance of tutors are different in dental schools, so we cannot generalize the results of a study to other dental schools. Therefore, surveying the students' attitude about the quality of clinical education in different dentistry colleges can surely improve the educational programs and clinical training quality. The current study was aimed at evaluating the dental students' attitude towards clinical education in Kerman (Iran) dental school.

## 2. Methods

In this cross-sectional descriptive-analytical study, 90 dental students of Year 3- 5 at Kerman School of Dentistry were enrolled by census. As the inclusion criteria, the participants had to be willingly cooperative, in addition to having passed at least one clinical course in each of the departments of endodontics, pediatric dentistry, surgery, orthodontics, prosthodontics, periodontics, radiology, oral diagnostic pathology, and esthetic dentistry. The students that the Grade Point Average (GPA) of them was less than 12 and those who had incompletely filled out the questionnaire were excluded from the study.

Data was collected by using a questionnaire whose reliability and validity was calculated by Ramezani et al. In this study the validity of content confirmed by specialists and corrective comments was performed in the questionnaire. The content validity score was 0.62 and the content validity index was 0.79; To determine the reliability, the questionnaire were completed by 20 students of the same statistical population and the average ratio of Cronbach's alpha was calculated 0.76 [5].

The questionnaire was designed to cover three domains including clinical learning opportunities (6 questions), scientific activities learned (7 questions), and student-

instructor interaction (8 questions). Likert Scale was used to score the questions (0=strongly disagree, 1=disagree, 2=neutral, 3=agree, 4=strongly agree). Accordingly, the minimum and maximum scores of each section and the whole questionnaire were respectively 0 and 4.

In order to gather the data, the researcher first retrieved the list of all qualified students from the educational authority. Prior to distributing the questionnaires; the participants were provided with explanations about the aims and significance of the study. They were also assured that the information would remain confidential and that the questionnaires do not require names.

Descriptive and analytical tests such as relative and absolute frequency, distribution, mean + SD, ANOVA, and t-test were used as appropriated. SPSS Software, version 19, was employed with the significance level set at 0.05.

## 3. Results

Out of 90 questionnaires distributed, 2 were excluded from the study due to being filled out incompletely; thus, 88 filled out questionnaires were analyzed. The mean  $\pm$  SD age of participants was  $32.6 \pm 1.3$ , 43.3% of which were male and 56.7% were female. The Grade Point Average (GPA) of most of them were 14-17 (76.7%), 17.8% were 17-20, and 5.6% were 12-14. Majority of the participants were sixth year students (47.7%), and the minority were third and fourth year students (6.8%). The mean  $\pm$  SD score of students' attitude towards clinical education was  $2.93 \pm 0.64$ . The results of t test revealed no significant difference between the male and female students' attitudes about clinical education in different departments (Table 1), (P.value=0.34).

**Table 1. Comparing the score of students' attitudes according to sex about three domains of clinical education**

	sex	N	Mean	Std. Deviation	P.Value
Clinical Learning Opportunities	male	39	2.41	.58	0.58
	female	51	2.34	.52	
Scientific Activities Learned	male	39	2.50	.73	0.19
	female	51	2.30	.73	
Interaction with the Instructor	male	39	2.49	.79	0.17
	female	51	2.27	.72	
Questionnaire Total Score	male	39	2.47	.66	0.34
	female	51	2.34	.62	

**Table 2. Comparing the score of students' attitudes about three domains of clinical education divided based on their Grade Point Average**

Areas of clinical education		N	Mean	Std. Deviation	P.Value
	14-17	69	2.32	.53	0.19
	17-20	16	2.60	.59	
	Total	90	2.37	.54	
Scientific Activities Learned	12-14	5	2.17	.74	0.27
	14-17	69	2.35	.71	
	17-20	16	2.65	.82	
	Total	90	2.39	.73	
Interaction with the Instructor	12-14	5	2.05	.80	0.19
	14-17	69	2.32	.71	
	17-20	16	2.65	.88	
Questionnaire Total Score	Total	90	2.37	.75	0.26
	12-14	5	2.28	.60	
	14-17	69	2.35	.61	
	17-20	16	2.63	.75	
	Total	90	2.39	.64	

Nor was significant difference found between the students' GPA and their attitudes about each of the three domains of clinical education (Table 2). Moreover, the students in grades did not hold significantly different attitudes towards clinical education ( $p$ .value=0.31). Comparing the departments, the lowest and highest mean score of students' attitudes about clinical learning opportunities was respectively related to the department of

orthodontics ( $1.9\pm 0.87$ ) and esthetic dentistry ( $2.7\pm 0.64$ ). However, the ANOVA test was showed that the difference among the departments was not statistically significant. No statistically significant difference was found among different departments regarding the students' attitudes about the two domains of learnt activities and student-instructor interaction (Table 3).

**Table 3. The mean  $\pm$  SD scores of students' attitudes towards three domains of clinical education in different departments**

Departments	Endodontic	Pediatric Dentistry	Orthodontic	Prosthodontic	Periodontic	Esthetics	Radiology	Surgery	Oral Diseases	Pathology
Clinical Learning Opportunities	0.7 $\pm$ 2.28	2.46 $\pm$ 0.7	0.8 $\pm$ 1.99	0.8 $\pm$ 2.27	0.7 $\pm$ 2.29	0.6 $\pm$ 2.70	0.7 $\pm$ 2.55	0.6 $\pm$ 2.38	0.7 $\pm$ 2.40	0.8 $\pm$ 2.13
Scientific Activities Learned	0.8 $\pm$ 2.54	0.8 $\pm$ 2.45	0.9 $\pm$ 2.08	0.8 $\pm$ 2.21	0.8 $\pm$ 2.29	0.8 $\pm$ 2.62	0.8 $\pm$ 2.71	0.7 $\pm$ 2.39	0.8 $\pm$ 2.58	0.9 $\pm$ 2.02
Interaction with the Instructor	0.9 $\pm$ 2.34	0.9 $\pm$ 2.56	0.9 $\pm$ 2.12	0.9 $\pm$ 2.19	0.9 $\pm$ 2.26	0.8 $\pm$ 2.74	0.8 $\pm$ 2.54	0.7 $\pm$ 2.40	0.9 $\pm$ 2.35	1.0 $\pm$ 2.15
Total Score	0.7 $\pm$ 2.39	0.7 $\pm$ 2.49	0.8 $\pm$ 2.07	0.7 $\pm$ 2.22	0.8 $\pm$ 2.28	0.6 $\pm$ 2.69	0.7 $\pm$ 2.61	0.6 $\pm$ 2.39	0.7 $\pm$ 2.44	0.8 $\pm$ 2.10

## 4. Discussion

Students as center of dental education can be a valuable asset in providing feedback and suggestions for revision of curriculum and improve their learning environment [9,10,11]. Dental students' views on the content, structure and quality of education is a fundamental component of the curriculum assessment and is an important information source for educational policy [12]. The results of this study showed that the mean score of students' attitudes towards clinical education indicated its relatively good condition in this study and no significant difference was found among the mean scores of students' attitudes about the three domains of clinical education. Shetty et al. In their study about the educational experience of dental graduates in India, showed that more than 95% of them were satisfied with their educational program and 65-95% of them believed that the various components of the education-learning process was adequate [13]. Bertolami believes that if the form and content of dental education don't reinforce each other, leading to inadequate education and the student dissatisfaction [14]. Also, Rfeek et al. In assessing satisfaction of dental graduates in University of West Indies about their education and readiness to work outside the university showed that they had taken a score of 3.37 out of 5 [15].

Dentistry science is improving every day and students should become familiar with new developments regularly and educators of dental system should provide student satisfaction from education [16]. Since universities of medical sciences train clinical skills that deal with the health of the whole society, assessing the status of clinical education in these universities are of utmost importance. Dental education is a complex process, therefore, it is essential to regularly evaluate the students' attitude about the conditions of clinical education [17], and the results of these surveys must be taken into consideration in decision making and educational planning.

Also the results showed that, the mean scores of students' attitudes were not significantly different according to sex, the Grade Point Average, and educational grade. A study conducted by Henzi et al. in

north America showed that dental students' opinion was not positive about the adequate access to the professors, appropriate feedback from the staff, Wasting a lot of time for non-educational matters, interpreting laboratory tests and evaluating the oral and dental health problems [18]. In India, Jain and his colleagues carried out a survey on the perception of dental students about the learning environment. They found that the best attitude in students was about the status of relationship between students at the university [19]. Also Ali et al. Showed that the main concern of dental students about educational environment was educational methodology and the attitudes of staffs [20].

An important part of dental clinical education relates to the effective cooperation between the staffs and assistants and the students as well as employing dental equipment and accessories which lies in the area of clinical learning opportunities. In this regard, our study found that the Orthodontics department got the lowest score. It can be due to the higher interest of students in receiving clinical education in orthodontics department which cannot be adequately fulfilled in the current conditions contrary to this study, in Borhan Mojabi et al.'s study in Qazvin, majority of the students reported lack of medical equipment in departments of endodontics and esthetics [8]. A study by Joodi Chalan et al. in Babol found that the students were least satisfied with the departments of orthodontics and radiology. However, no significant difference existed between the other departments and the students were generally satisfied with different departments [21]. In Shiraz, Amanat et al. surveyed the dental students' attitude towards education and detected that they were mostly satisfied with the staff and instructors in departments of pediatric dentistry and periodontics, and the lowest level of satisfaction was related to the equipment of surgery department [22]. Unlike the two above-mentioned studies, we found no significant difference in the students' attitude between various clinical departments. Similar to what was found by Amanat et al. [22], our study found no statistically significant relation between the students' average and their attitude towards clinical education in different departments. It was just like the results achieved in the study by Eslamipour et al. in Isfahan [23]. Indeed, such a

result can be attributed to the lack of coordination between the subjects taught in colleges and the educational goals. Thus, it demands attention of authorities to improve the quality of clinical education.

Being a center of producing and transferring science and knowledge as well as training the specialists, universities must regularly assess their educational condition, identify the problems, and provide practical solutions to improve the education quality [24]. Assessment and prioritization of dental students' needs positively affects the clinical education programs. Accordingly, in order to obtain the educational goals and priorities, it is essential and beneficial to determine the students' needs [25]. The students are the main pillar of clinical education; so, surveying their opinions can clarify the weak and strong points of clinical environments, and consequently influence the educational planning and improve the education quality [3]. A fundamental approach to increase the qualitative and quantitative level of performance of clinical dental departments is to raise the educational authorities' awareness of the level of clinical students' satisfaction with the performance of these departments [22].

## 5. Conclusion

The results of this study revealed that Kerman dental students have relatively positive attitude towards clinical education in this college. However, improving the facilities and equipment in some departments can help enhance the clinical education quality.

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