

Perspectives of teachers and students towards the implementation of a new curriculum in school of dentistry in Kerman, Iran, in 2017

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Original Article

Abstract

BACKGROUND AND AIM: The aim of this study is to investigate the views of teachers and students about the new educational curriculum to determine its strengths and weaknesses.

METHODS: This cross-sectional descriptive study was carried out in 2015 and data collection was performed from dental students entering the university in the academic year 2010-2012 as well as 35 teachers through the use of a questionnaire in the field. The questionnaire items included various areas of the educational curriculum. T-test, analysis of variance (ANOVA), and Tukey test were used for analysis ($P \leq 0.050$).

RESULTS: Based on the 98 questionnaires filled, the minimum and maximum age of the subjects were respectively 20 and 34 years old, with the mean age of 22.98 ± 2.02 years old. In addition, 53 (54%) and 45 (46%) of them were males and females, respectively. The mean attitude was respectively 64.30 ± 13.66 and 58.84 ± 11.12 in males and females. A significant relationship was observed between the attitudes toward educational curriculum and gender. Moreover, the results of correlation analysis showed more positive attitude towards educational curriculum with increasing age ($P \leq 0.034$). Post-hoc test scores showed a significant difference between the viewpoints of students entering the university in 2010 and 2011 ($P \leq 0.001$), as well as 2011 and 2012 (senior year students compared to junior ones, $P \leq 0.003$), but no significant difference was observed between students' viewpoint entering in 2010 and 2012 ($P \leq 0.145$). The results indicated no significant relationship between the viewpoint of teachers and age. These results showed only a significant relationship regarding teaching experiences and viewpoint toward educational curriculum.

CONCLUSION: This study showed no positive views of the teachers and students about theoretical and practical training in the new curriculum, which may be mainly due to the lack of attention to the educational needs of students as well as their practical usage. Furthermore, by increasing teaching experiences of the teachers followed by increasing their clinical experiences, their satisfaction reduced.

KEYWORDS: Students; Curriculum; Dental Education

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All dental hygiene programs are well-thought-out in dental curriculum. In this way, a new essential concept for promoting and improving the oral health has been set in the curriculum of dental schools. While the Iranian medical graduates and related

authorities would agree on the inadequacy of the medical education,¹ it needs to take comprehensive steps to improve medical education. Obviously, dentistry as one of the important branches of medicine with its prominent role in training experts and professionals is not exempt from such

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deficiencies. The training program in dental field requires special attention, especially in the area of clinical practice due to the high volume of practical units and wide dimensions of learning and acquiring skill.² To create constructive change, descriptive information about the current status and knowing students' attitudes toward learning outcomes is necessary. Using these information, positive factors can be strengthened and the possible negative effects can be adjusted, bringing optimistic academic experience results.³ Students' dissatisfaction is significantly associated with negative health outcomes of the patients.⁴

The attitude of the students as the main body of the health care system and society in the future and their satisfaction are contributing factors to motivate them and keep the educational quality improved.⁵ American Dental Association (ADA) has proposed an outline about changing the education system. The proposed changes include a greater emphasis on self-learning, development of critical thinking, and lifelong learning.⁶ Additionally, American Dental Education Association (ADEA) published a collection called "curriculum guide" for the first time in 1986 and last time in 1993. In 1997, "Competencies for the New General Dentist" was published by American Association of Dental Schools-House of Delegates, upon which the founding of education should include basic information related to the desired qualifications, including skills for a general dentist to serve oral health needs in the community. "Competencies for the New General Dentist" is not the end point in the ADEA development; however, it is a point of reference for innovative changes.⁷ School of Dentistry, Kerman University of Medical Sciences, Kerman, Iran has created major changes in the educational curriculum according to the program issued by the ministry. These changes are based on the correction of defects in the former curriculum that had been implemented for many years.

Some deficiencies in the realm of basic science and pre-clinical studies toward clinics, including the allocation of fewer hours to some important lessons, too much attention to less significant subjects, the lack of a coherent training program, the lack of relative balance in the provision of courses in different semesters, poor training practice in a number of departments, and finally the late entrance of students into some departments, were among the drawbacks of the former curriculum.

The new training curriculum was designed for the first time in the country by the Ministry of Health and Medical Education (Dentistry Planning Council) and then was implemented since 2011. It is clear those rapid advances in medical science and ever-increasing demands of society, on the other hand, need implementing regular review for the educational curriculum to be accommodated with these factors.

The aim of this study is to investigate the views of teachers and students about the new educational curriculum to determine its strengths and weaknesses.

Methods

This cross-sectional descriptive study was carried out in 2015 and data collection was performed from dental students entering the university in 2010, 2011, and 2012, as well as 35 teachers through the use of a questionnaire in the field.

The items of the questionnaire (22 and 28 items for the teachers and students, respectively) included various areas of the educational curriculum. Questionnaires were designed based on items added to the new curriculum which did not exist in the previous curriculum. A new and an old dental curriculum were used to design the questionnaire. Answers to the items, ranging from very good to very poor, were designed based on the Likert's scale to fit a score of 0 to 4 (extremely weak = 0, weak = 1, average = 2, good = 3, and very good = 4). Therefore, the questionnaire scores of the

teachers and students were in the ranges of 0-88 and 0-112, respectively.

The items were designed based on personal views and first author's experiences, as well as experts' opinions. In order to design the questionnaire, to check the content and to cover various fields related to the educational status and clinical setting of the departments (checking the validity), the items were shared with a number of experts in the field. After the required amendments, for achieving the reliability, the questionnaires were given to a group of students and teachers at two different times within two weeks and after reviewing the questionnaire, the questions that were not reliable were excluded.

Finally, using Cronbach's alpha coefficient analysis, the questionnaire reliability was determined to be as 0.84 and 0.96 for teachers and students, respectively. Then, two types of questionnaires were anonymously distributed among the teachers and students. The subject of the questionnaire and objective of the study were explained to them before distribution of the questionnaires. After collecting the questionnaires, descriptive information was scored. In this study, for an easy comparison, the mean scores were converted to percentages.

T-test analysis was used to investigate the relationship between scores of attitudes and gender for both teachers and students. The correlation coefficient was employed to compare the mean score ranges of the teaching experience and age, ANOVA test to consider the scores based on the university entrance year, and Tukey test (post hoc) for multivariate analysis in relation to the nonlinear regression of the mean scores ($P \leq 0.050$).

Results

Of the 120 dental students as the target group, 110 questionnaires were collected, of which 12 questionnaires were excluded due to factors such as the lack of response to all inquiries and failure to complete the

demographic data. From the 98 questionnaires remained, the age range of the subjects was 20-34 years old with the mean of 22.98 ± 2.02 years old. Besides, 53 (54%) and 45 (46%) of the participants were males and females, respectively. 30 (30%), 40 (40.8%), and 28 (28.6%) entered the university in 2010, 2011, and 2012, respectively.

The mean percentage of the teachers' and students' scores was assessed as respectively 61.26 and 61.81.

The mean \pm standard deviation (SD) of score of the questionnaire was 58.78 ± 14.86 and 63.22 ± 9.98 in male teachers and female teachers, respectively. The mean \pm SD of attitude was 64.3 ± 13.66 and 58.84 ± 11.12 in male students and female students, respectively. There was no significant relationship between the attitudes and scientific degree ($P \leq 0.012$).

This study indicated a significant relationship between the attitudes toward educational curriculum and gender in students (men more than women, $P \leq 0.410$) (Table 1).

Table 1. Mean and standard deviation (SD) of scores of the questionnaire of the teachers and students based on sex

Score of questionnaire		Mean \pm SD	P*
Teachers	Male	58.78 ± 14.86	0.305
	Female	63.22 ± 9.98	
Students	Male	64.3 ± 13.66	0.041**
	Female	58.84 ± 12.66	

SD: Standard deviation

*Independent t-test, **P < 0.050 is significant.

Additionally, the results of correlation analysis showed more positive attitude towards educational curriculum with increasing age (younger students than older students ($P \leq 0.034$)).

The mean \pm SD of attitude was 69.83 ± 10.94 , 53.96 ± 12.37 , and 63.87 ± 11.66 in students entering the university in years 2010, 2011, and 2012, respectively (Table 2). The results of correlation analysis showed more positive attitude towards educational curriculum with increasing age, $r = 0.221$, and $P = 0.034$.

Table 2. Mean and standard deviation (SD) of scores of the questionnaire of the teachers and students based on different entrance years

Student entrance year	n (%)	Mean \pm SD
2010	30 (30.6)	63.22 \pm 9.98
2011	40 (40.8)	64.3 \pm 13.66
2012	28 (28.6)	58.84 \pm 12.66

SD: Standard deviation

The post hoc test scores revealed a significant difference between the viewpoints of students entering in 2010 and 2011 ($P \leq 0.001$), as well as 2011 and 2012 ($P \leq 0.003$), but no significant difference was observed between the viewpoints of students entered in 2010 and 2012 ($P \leq 0.145$).

According to multivariate analysis of the students' assessment results (age, gender, and year of entry to university) based on linear regression analysis, only age ($P \leq 0.034$ and $B = 1.426$) showed a significant relationship with attitude towards the educational curriculum.

Of the 50 teachers of the school of dentistry, target group, only 40 individuals responded to the questionnaire, of whom 5 were excluded for reasons such as failure to respond to all items or failure to complete the demographic information.

35 teachers with the mean age of 39.02 ± 9.02 years old completed the questionnaires, of who 16 (45.7%) and 19 (54.3%) were respectively males and females (age range = 28-56 years old). The mean teaching experience was 10.74 ± 8.82 years, with the lowest and highest being 1 and 28 years, respectively. The results of evaluation of the overall attitude of teachers by gender suggested that the mean viewpoint score of the male and female teachers was respectively 58.78 ± 14.86 and 63.32 ± 9.98 . There was no significant relationship between the viewpoint of teachers and gender (Table 1).

The results of evaluation of the overall viewpoint of teachers by age showed no significant relationship ($P \leq 0.066$). This study showed that with increasing the teaching experience, the viewpoint toward educational

curriculum became more negative ($P \leq 0.400$).

These results showed only significant relationship regarding teaching experiences and viewpoint toward educational curriculum.

Discussion

This study showed no positive views of the teachers and students towards the theoretical and practical training in the new curriculum. Furthermore, by increasing teachers' teaching experiences followed by increasing their clinical experiences, their satisfaction reduced. More fulfillments of experienced teachers regarding their profound and practical capabilities in boosting student achievement should be considered.

Evaluation of training programs is a means by which the training process in practical and theoretical courses can be improved. According to the opinions of the people trained, the students, and those who teach, the teachers, this evaluation can increase the efficiency of training.⁸ Medical students conduct preparation aimed at improving overall human health. So, the realization of the provision of inclusive education based on their educational needs is important.⁶

In an educational setting, paying attention to students' educational needs and asking about their expectations and satisfaction with educational programs, such as a full-face mirror, shows the effectiveness of educational programs. In this study (the only study in Iran regarding educational curriculum), the views of professors as well as clinical and pre-clinical students of School of Dentistry, Kerman University of Medical Sciences were surveyed to determine their satisfaction with the training provided in the theoretical and practical units of the new educational curriculum using a questionnaire.

Regarding the relationship between curriculum satisfaction with teachers' age and gender, no significant difference was observed. The analysis of difference in the mean scores showed a significant relationship between the students' curriculum satisfaction and gender,

demonstrating more positive views of the boys compared to the girls. In a similar study regarding the success of clinical skills' training performed at the School of Dentistry, Mashhad University of Medical Sciences, Mashhad, Iran, male students showed more positive attitudes.⁹

Professors with a long history of dealing with patients from different cultures and communities with various medical needs in both educational setting and personal office, and with a huge background of clinical experience can provide valuable insights. Therefore, designing and delivering theoretical and practical training are necessary and efficient.

Comparison of the mean scores of students showed that gender had an almost significant relationship with the curriculum, so that the boys had a more positive view compared to the girls.

In comparable studies on the educational situation of periodontics, endodontics, and restorative departments of School of Dentistry, Kerman University of Medical Sciences, male students had more positive views than those of females.¹⁰⁻¹²

In the present study, with increasing age, students were more positive towards educational curriculum. Considering the year of entrance to the university, a significant relationship was found between the students entering the university in 2010 and 2011, as well as 2011 and 2012, however no significant difference was observed between students entered in 2010 and 2012. So those who entered in 2010 and 2012 were more satisfied with the educational curriculum.

The differing perspective of students entering in 2011 was likely because they had passed more credits and were more familiar with the new curriculum, unlike the perspective difference of the students entering in 2010 with those entered in 2011, because they had passed the old curriculum and were less familiar with the new curriculum. In the study by Eslamipour et al. at School of Dentistry, Isfahan University of

Medical Sciences, Isfahan, Iran, students' attitude toward the educational situation was different in different years of entry.¹³

The mean percentage of students' and teachers' attitude were respectively 61.81% and 61.26%, showing teachers and students satisfaction with the curriculum. Thus, according to the scores obtained, students and teachers assessed new curriculum as average. Eslamipour et al. assessed the satisfaction of the students of School of Dentistry, Isfahan University of Medical Sciences fairly favorable.¹³

In another study, Jabarifar et al. concluded that positive measures of medical and dental students toward the academic learning environment were much less than the negative ones, needing to consider these fields for review purposes for the students.¹⁴ In another study in the United States, the importance of the revision of the topics presented in the course of dentistry was noted that is consistent with the current study.¹⁵ Slight changes, such as adding practical courses to the courses offered at the clinic and pre-clinic, can increase students' satisfaction.

Conclusion

This study (the only study in Iran about the educational curriculum) showed no positive views of the teachers and students about theoretical and practical training in the new curriculum, which is likely to be due to the lack of attention to the educational needs of students as well as their practical usage. Moreover, by increasing teaching experiences of teachers followed by increasing their clinical experiences, their satisfaction reduced.

Generally, this study showed that despite the objectives set to improve the quality of education for dental students, the new educational curriculum contains some defects that cannot help finding it remarkable for teachers and students.

Lack of evaluation of all student years, lack of evaluation by basic science professors, and lack of conducting qualitative studies were

among the limitations of the present study.

Conflict of Interests

Authors have no conflict of interest.

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