Knowledge and attitude of dental students towards infection control in Babol dental school

Original Article

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Abstract

Introduction: Regarding the cross contamination, prevention from infection is of high priority. The aim of this research was assessment of knowledge and attitude of dental students toward infection control in endodontics department of faculty of dentistry, Babol University of medical sciences.

Materials and Methods: The study was accomplished among 8th, 10th and 12th grade dental students in endodontics department during October-January, 2011. The student's knowledge and attitude towards infection control were investigated. The range of knowledge score was 8 to 19. The scores below 14 were considered low and between14 to 17 moderate and higher than 17 good. The attitude questions also included 3 answers (agree, disagree and have no idea). Their scores were -1, 0 and 1. The range of attitude score was -6 to 8. The scores below -2 were considered low and between -2 to 2 moderate and higher than 2 good. Data were collected via questionnaire and analyzed statistically using One-Way ANOVA, and HSD Tukey.

Results: There was no significant difference between men (15.45±2.85) and women knowledge (15.2±2.7) (P=0.65) and attitude (0.2±2.5 vs. 0.35±2.49) (P=0.5). The difference between 8th and 12th semester was statistically significant (p=0.026). There was no significant difference between different semesters in attitude (p=0.94).

Conclusion: This study revealed that knowledge and attitude of Babol Dental School toward infection control is not adequate and more training in both educational and practical fields is required.

Key words: **•Infection control •Dentistry health service •Infectious disease**

Introduction

Infection control is consisted of actions to prevent further infections. Important issue is that they should be simple, practical and understandable and could be done by dental assistant. Cross infection control must be cost effective and time-efficient to be executed repeatedly, without delay and dealing with toxic substances. Realizing the risks is the key step in optimal infection control.[1, 2]

Despite many advances in infection control in recent years, there are many problems in universities, clinics and offices. One of the deficiencies in this area is the lack of assessment of infection control in universities. Dentists are always at high risk for blood-borne infections due to contact with blood and other body fluids. So that all dentists, nurses and other health team members are associated with this problem. [3] Palenik et al. believed that infection control in dental clinics that follow proper protocols can help in protecting therapist, patient and society.[4]Naser Khaki et al. evaluated the principles of self-protection and sterilization among dentists in Tehran. In this survey, only 10.4% of people used oven correctly and 4% accounted for using autoclave.[5]

The results of previous studies indicate inappropriate knowledge and attitude towards infection control among dentists. [6-8]Studies conducted in Iran also demonstrate low knowledge and attitude among dentists regarding this issue. [9-11]To improve infection control in the dental field, the dental students require more professional training. Due to the fact that dental schools act as a model for other dentists and dental community members, achieving maximum protection of patients, faculty and students in dental school is difficult and costly.[1]

Therefore, the aim of this survey was to determine knowledge and attitude of dental students in Babol dental school about infection control.

Materials and Methods

This cross-sectional study was done on 103 dental students in endodontics ward at Babol dental school (8th, 10th and 12th term) during October and January, 2011 after filling in the inform consent. Data collection was done using a questionnaire which its validity and reliability were confirmed by some dental professions of the school.

The questions were about student's knowledge and their information about the definition of infection control, sterilization and asepsis, methods of personal protection, infectious disease and transmission methods. Each correct answer was assigned one point and the incorrect ones had no point. The knowledge score ranged from 8 to 19. The scores below 14 were considered low and between 14 to 17 moderate, and higher than 17 good. Attitude questions also included 3 answers (agree, disagree and have no idea). Their scores were -1, 0 and 1. The range of attitude score was -6 to 8.The scores below -2 were considered low and between -2 to 2 moderate and higher than 2 good. The data were analyzed using SPSS V.17, One-Way ANOVA and Tukey HSD tests.

Results

The number of returned questionnaire was 102, one of which was excluded because of incomplete answers. There were 48 male and 54 female respondents.

Out of 102 students, 38.2% (39 people) of them gained low scores of knowledge and 28.4% (29 people) gained moderate score, whereas, approximately one third of them (34 people 33.3%) had good knowledge. As well as 20.5% (21 people) of students gave negative answer to attitude questions, 61.7% (62 people) had no idea and 17.6% (18 people) agreed with attitude questions about infection control.

The mean score of men's knowledge was 15.45±2.85 and women's was 15.2±2.7. There was no significant difference between them (P=0.65). The mean attitude score of men was 0.2±2.59 and women score was 0.35±2.49. This difference was not statistically difference (P=0.5).Regarding the student semester, mean knowledge score of different group was shown in table1. The difference between 8th and 12th semester was statistically significant (p=0.026)

The mean score of attitude was shown in table 2. There was no significant difference between different groups in attitude (p=0.94).

Table 1. Mean knowledge score of students

semester	number	Mean knowledge score	SD	Semester comparison	P value
8	28	14.38	3.03	8 and 12	0.03
10	42	15.39	2.48	8 and 10	0.48
12	32	16.31	2.63	10 and 12	0.21

Table 2. Mean attitude score of students

semester	number	Mean attitude score	SD	Semester comparison	P value
8	28	0.14	2.69	8	
10	42	0.14	2.88	10	0.94
12	31	0.32	1.88	12	

Discussion

In the current study, 12th semester students had higher knowledge compared to 8th and 10th semesters, which may be related to more training of the 12th semesters in different parts of the school. But approximately two thirds of the students did not achieve a good score in knowledge and only 33.3% of them answered well.

According to Eghbal et al. study, the mean score of knowledge of complementary, 8th, and 12th semester students was 19 of 34. The study results showed that the overall knowledge of students about infection control was not enough and more theoretical and practical education was needed.[12]Zaker Jafari et al. evaluated 8th, 10th, 12th semester and complementary students. Their results were similar to the present study in that the maximum score was gained by 12th semester students and the lowest knowledge and attitude score was related to 10th semester students.[13] In their study, student knowledge about infection control was higher in which 74% of them were well aware. Perhaps it is due to the low level of education in this field in Babol dental requiring rigorous classes and training on infection control. In the current study and Zaker Jafari's one, there was significant difference between different semester students about knowledge. But this difference was not significant in attitude. In the current study, the mean attitude score of 12th semester students (0.32±1.88) was higher in comparison to 10th (0.14±2.88) and 8th (0.14±2.69) semester which could be due to the role of experience on attitude towards infection control. Mirzaei et al. carried out a study on the knowledge, attitude and practices of 77 dentists concerning AIDS disease in Bushehr using questionnaire. General practitioners knowledge about AIDS and its transmission, and their performance in infection control principles were low and had no relationship with their demographic characteristics.

Finally, due to the low level of their knowledge about AIDS and its transmission, organized training programs and the proper use of safety precautions to prevent infection were proposed.[14] Razavi et al., in their study about infection control methods in dental offices and clinics of Isfahan showed that experience and expertise in infection control is highly important, and suggested essential training in infection control for the dental students be provided.[15]

The results of the present study also confirmed the role of experience in knowledge and attitude. So that top semester students get better score than the lower semester students in area of knowledge and attitude. Moradi et al. evaluated knowledge, attitude, practice, and status of infection control among Iranian dentists

through a systematic review of published results. They indicated an inappropriate knowledge, attitude, and practice among Iranian dentists and dental students regarding the infection control. Therefore, education should be provided and infection control subjects should be emphasized as a priority of academic curriculum. Additionally, special programs should be in place to monitor the dental settings for observing the infection control standards.[16]

The results of other studies in countries such as the United States, Italy, Nigeria, and England also showed low level of dentists' knowledge and attitude.[6, 7, 17, 18]

Conclusion

We can conclude that that dental students' knowledge about infection control is undesirable and more continuing education is required. In addition, more experienced students had better knowledge. Hence, the role of experience is undeniable.

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