

Brief Communication

Effect of Short Lectures on the Knowledge and Skill of Dental Students in Endodontic during Internship

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Abstract

Studies conducted in Iran indicated dissatisfaction of many students of dentistry in acquiring sufficient skill to carry out therapeutical procedures. The present study was aimed to analyze the effect of short lectures on promoting the knowledge of interns in Endodontic course. In this quasi-experimental study, the knowledge and skill of the experimental group (teaching via short lectures) and control group (traditional teaching method) were compared in Endodontic course. Totally 20 students were included in each experimental and control group. Data were collected by a questionnaire consisting of two sections: demographic information and self-evaluation of the endodontics' knowledge and skill (30 questions). The means of scores in the pre-test and post-test in control group were 99 ± 11.2 and 102 ± 11.7 , respectively ($P=0.13$) and the means of scores in experimental group were 100 ± 9.4 and 119 ± 13.7 indicating a significant difference ($P<0.05$). Short lecture as a simple, inexpensive and less time-consuming method is an efficient method to promote the knowledge in Endodontic course.

Keywords: Endodontic, Root canal therapy, Short lecture, Internship

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Introduction

The most of dentistry students are dissatisfied with acquiring adequate skill and dental expertise to perform the procedures (1). The satisfaction level regarding acquiring a skill is not the same in universities and educational centers (2). The results of a study comparing the viewpoints of students at Babul School of Dentistry with their professional capability indicated a total mean of 132-180 for professional capability (3). Another study conducted in Isfahan School of Dentistry analyzing the assessment of educational programs at different departments showed that the students' abilities

in different departments were not desirable based on the standards. This study indicated that teaching methods needed to be revised in order to strengthen the learning (4). Also, the achievement level of educational objectives was 39.7% in Tehran Azad School of Dentistry (5).

A simple educational strategy can reduce the dissatisfaction. For example, changing the internship program can improve the dental education status and increase satisfaction. How to plan the internship program of Endodontic course is an instance that most of the students

are concerned about, therefore, various studies have been carried out on new educational methods and strategies of education (6-8). Given the significance of root canal therapy among dental treatments, it is helpful to present and review the theory of the previously taught materials. Thus, the present study was carried out to evaluate a simple, inexpensive and less time-consuming educational method (15-minute lectures) in promoting the knowledge of dental students in Endodontic course during their internship program.

Methods

This quasi-experimental study was carried out at School of Dentistry, Isfahan University of Medical Sciences. The sample comprised of all students of dentistry (12th semester) from two different admission periods (2006 and 2007). Students in each admission period were divided into experimental (group A) and control group (group B). In group A, at the beginning of sessions, the teacher presented short lectures (15 minutes) about the educational subjects of root canal therapy during root Endodontic internship program, and at the end of the lecture, students' questions have been answered. In each session, three related subjects about root canal therapy were taught. Totally, in 10 sessions, all 30 subjects of Endodontic course were covered according to Endodontic reference book (9) and the curriculum of Isfahan School of Dentistry and the Ministry of Health and Medical Education. This method, however, was not applied to the students in group B that were taught by another mentor. Instead, they were taught through traditional teaching method during the internship program (they merely visited patients without being trained).

The results of education were analyzed by a questionnaire. The questionnaire comprised of two sections. The first section included demographic information and the second section contained questions about self-evaluation of endodontics' knowledge and skills. Thirty structured questions were designed according to the curriculum of Walton-Torabinejad book (2008) (9), which is the source of endodontics based on the Ministry of Health and Medical Education. The descriptive 5-point Likert scale, including excellent, good, average, poor and none, was used. The post-test questionnaire was similar to pre-test questionnaire. In the first day of Endodontic internship program, the pre-test questionnaires were given to students to complete and in the last day of the program, the post-test questionnaires were given to students to complete. Those who had not completed the questionnaires (both pre-test and post-test) were excluded from the study. The total number of subjects in each group was 20.

The validity of the questionnaire was approved by three faculty member of Isfahan School of Dentistry. Also, the reliability of the questionnaire was confirmed through test-retest method in a pilot study employing 10 dental students (last semester) with Cronbach's alpha coefficient of 92.7%. No question was eliminated after the pilot study, only the tone of some questions was changed in order to make them more comprehensible. Data were analyzed by SPSS 14 using t-test. P-value<0.05 was considered significant.

Results

Out of 40 students participating in the study, 20 were devoted to experimental and 20 to control group. To homogenize the groups, based on the results of pre-test in both groups, the heterogeneous participants were excluded and 16 participants remained in each group (21 females and 18 males). The mean age of the participants was 24.7. Since the score of 1-5, from lack of knowledge to full knowledge, was defined for each group and students self-evaluated totally 30 skills, the score of 150 indicated that the participants answered all the questions as excellent and the score of 30 showed no learning. Further, the median of scores was 60. There was no significant difference between the pre-test and post-test scores in control group (P=0.13), but it was significant in the case of experimental group (P<0.05) (Table 1). Moreover, there was a significant difference between the scores of experimental and control groups (P<0.05).

Table 1: The mean of scores for pre-test and post-test in experimental and control groups

Groups	Mean±SD	P-value
Pre-test (group A)	99±11.2	0.13
Post-test (group A)	102±11.7	
Pre-test (group B)	100±9.4	<0.05
Post-test (group B)	119±13.7	

Discussion

The mean score of the post-test both in experimental and control groups was higher than that of pre-test, but the difference of mean scores for pre-test and post-test was not significant in control group. However, irrespective of the type of education and given the nature of education that always leads to knowledge promotion, the post-test score in control group (taught through traditional method) was expected to increase. The findings showed no significant change of scores for traditional teaching method. However, the results of pre-test and post-test in the experimental group revealed an increase of learning as a result of intervention and the mean score of post-test was significantly higher than that of pre-test.

The given intervention can make students have better imagination during practice and be effective in clinical skill education. Virdi et al. (10) evaluated an educational method of teaching clinical skills to students of dentistry and analyzed the clinical skill education in five stages, the first step of which was reviewing the required theoretical materials. They reported the first step as influential in remembering the theoretical materials before practice.

Based on the results of the present study and considering the 1-year interval between teaching theoretical courses related to Endodontic internship program, it seems necessary to teach the theoretical subjects related to the technique practiced in that session. That is why, the Australian guidelines for dental students have recommended to present theoretical courses in such a way that they can refer to and review them before embarking practice when they feel the need (11). In this study, reviewing the materials was performed by an faculty member as mentor at the beginning of the internship program and positives results were obtained.

Conclusion

Teaching theoretical courses which in fact are practical is better to be taken into consideration by educational systems in whole schooling program.

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