

Attitudes of Students Toward Clinical Education and Evaluations Made in the Department of Periodontics in Tabriz Faculty of Dentistry in 2015

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<http://dx.doi.org/10.13005/bpj/1069>

(Received: July 21, 2016; accepted: September 03, 2016)

ABSTRACT

The present study was performed to determine the attitudes of students in Tabriz Faculty of Dentistry toward the educational methods and evaluation of clinical lessons in the Department of Periodontics, Tabriz Faculty of Dentistry in 2015. In this descriptive/analytical study, questionnaires were used to collect the views of 157 Tabriz dental students. The inclusion criteria of this study were submitting an informed consent form, confirmation of studying dentistry in Tabriz Faculty of Dentistry in 2015, and studying in the clinical period after the basic sciences courses. After collecting the questionnaires, the results were presented in tables in the form of descriptive statistics. In the evaluation of the clinical education questionnaire, there was a significant relationship only between the type of the lesson unit involved and the response provided to the question on the quality of clinical education in relation to treatment planning and familiarity with gingival diseases ($P=0.02$ and $P=0.03$, respectively). In the evaluation of initial evaluation questionnaire, there was a significant relationship between the lesson unit involved and the responses provided to the question on the conformity of the questions in the Department final exam with the education presented in classes, the content of the reference books and the effect of the final exam of the Department on the self-confidence of students in the clinic ($P<0.01$). It can be concluded from this study that the dental students had a good opinion about education and evaluations in the Department of Periodontics, Tabriz Faculty of Dentistry.

Keywords: Dental education, Dental student, Clinical evaluation, Periodontics, Assessments.

INTRODUCTION

Clinical education in dentistry requires special attention due to the extensive nature of this field and the wide dimension of learning skills necessary. Clinical education is a dynamic process during which students gain experience gradually

by attending the clinic and practically applying the concepts they have learned in cooperation with their tutors and in interaction with the environment. Different variables such as students, clinical tutors, the personnel of the clinic and environment-related factors affect the results of education and learning and therefore are considered important¹.

Universities have the responsibility to train students who are capable of preventing and treating diseases and promoting the health status of the community. Since dentistry is both a science and art and requires dexterity, students should acquire the necessary knowledge in theoretical classes for achieving maximum efficacy and then acquire the necessary practical capabilities through practice and gaining experience in clinical environments^{2,3}.

In a national research, the obstacles to the effective clinical education were divided into several important groups, including lack of high-quality clinical environments, inadequate number of experienced academic staff members, unfavorable academic staff member—to-student ratios, problems related to the number of students, negative impressions from clinical environments and exposure of students to different clinical environments with different policies⁴.

Clinical environments have a major role in students' learning because they provide the students with the opportunity to work with care-seekers and encounter real problems. In addition, clinical wards create a proper environment to apply knowledge and increase the students' awareness in practical fields and develop their psychomotor skills².

Evaluation and teaching and learning processes are activities that are emphasized and draw attention in educational centers because training of experienced and efficient human resources depends on these processes to a great extent². Students constitute one of the most important aspects of evaluation of educational efficacy and testing for its improvement and promotion because they are the target of all the educational programs^{A three}⁵. Clinical tutors, too, should acquire the characteristics of efficient clinical tutors in order to play an effective role in facilitating the students' participation in the complex health systems⁶. In a descriptive study on last-semester nursing and midwifery students in Shahr-e-Kord, Iran, the most important strong points of clinical education consisted of the correct interaction of the tutor with students, on time attendance in the clinical ward, observation of the necessary prerequisites and the

stages of clinical education, full support of the student by the tutor, adequate supervision on the clinical education process, and the most important weak points of clinical education consisted of a lack of the use of educational aides in the clinical environment, lack of welfare facilities, lack of evaluation of the clinical tutors by the students and lack of harmony between theoretical and practical lessons based on opinions expressed by the students⁷.

A study on clinical evaluations based on students' viewpoints showed that 59% of students preferred the collective system and the most important obstacle to the evaluation of efficiency was a lack of proper patients⁸. Proper clinical education environments are a prerequisite for education and acquisition of professional skill because students gain professional experiences gradually through favorable encounters in clinical environments and practical fields, and they will be provided with opportunities to apply what they have learned theoretically in the real world and will establish harmony between concepts and realities⁹.

The majority of researchers have presented many reasons for the accuracy and validity of students' views about professors and the quality of their educational performance. For this reason, one of the most important recommendations of Educational Advancements Congress in Edinburgh is to participate the students in all the levels of education (9). On the other hand, periodic evaluations of educational methods have a significant role in understanding the strengths and weaknesses of each educational system and solve the existing problems¹⁰.

Since the students are the main targets of clinical education activities, they are one of the best choices for evaluation of this process and future programming for promotion of these activities; Also with regard on the scientific resources, we could not find any study that carried out to evaluate the students' attitudes and views in relation to education and clinical evaluation in the Department of Periodontics, Tabriz Faculty of Dentistry. Therefore, this study was designed and applied aims of this study included the use of data achieved

from the study for implementing changes in clinical education processes and promoting the clinical education levels.

sampling technique at a specific time interval. The questionnaires which did not include any names were distributed among the clinical period dental students in Tabriz Faculty of Dentistry.

MATERIALS AND METHODS

In this descriptive/analytical study, a questionnaire was used to collect the views of all the male and female dental students who were in the 912 semesters (clinical period) of their studies. Sampling was carried out using convenience

In addition, before distributing the questionnaires among the students, a trained individual explained the aims of the study at a proper time to the students. It should be pointed out that the inclusion criteria consisted of submitting an informed consent form, confirmation of studying

Table 1: Students' opinions about clinical education in the Department of Periodontics

Questions on clinical education in the Department of Periodontics	Very good	Good	Moderate	Poor	Very poor
Clinical education in relation to patient examination	4 (2.5%)	91(58%)	51 (32.5%)	5 (3.2%)	6 (3.8%)
Clinical education in relation to treatment planning	9 (5.7%)	70 (44.6%)	61 (38.9%)	13 (8.3%)	4 (2.5%)
Clinical education in relation to management of patients	10 (6.4%)	52 (33.1%)	36 (22.9%)	30 (19.1%)	29 (18.5%)
Clinical education in relation to preventive measures,i.e. phase I periodontal treatment	79 (50.3%)	59 (37.6%)	18 (11.5%)	1 (0.6%)	0
Clinical education in relation to gingival surgeries	38 (24.2%)	92 (57.6%)	23 (14.6%)	1 (0.6%)	2 (1.3%)
Clinical education in relation to gingival diseases	29 (18.5%)	97 (61.8%)	23 (14.6%)	4 (2.5%)	4 (2.5%)
Clinical education in relation to ordering radiographies	89 (56.7%)	63 (40.1%)	5 (3.2%)	0	0
Clinical education in relation to dental treatments for special patients	72 (45.9%)	77 (49%)	8 (5.1%)	0	0
The effect of preclinical ward in relation to clinical treatments on the practical skills of students	19 (12.1%)	101 (64.3%)	31 (19.7%)	4 (2.5%)	2 (1.3%)
Teaching of medical ethics by professors in the department	69 (43.9%)	68 (43.3%)	14 (8.9%)	3 (2.5%)	2 (1.3%)
Clinical education in general	20 (12.7%)	107 (68.2%)	24 (15.3%)	4 (2.5%)	1 (0.6%)
Total	25.4%	50.8%	17%	3.8%	3%

dentistry in Tabriz Faculty of Dentistry, and studying in the clinical period after the basic sciences courses.

The questionnaire used to collect data consisted of questions on the demographic data of the students included in the study and on different fields of educational programming and evaluations. The questions were designed in three sections,

consisting of initial evaluation (the final exam in the educational department at the end of the course) (8 questions), the system used for clinical education (11 questions) and the final evaluation (3 questions); furthermore, an open-ended question was included in relation to any opinion or suggestion to promote the education quality in the Department of Periodontics. In designing the questions, in addition to the personal views of the

Table 2: Students' opinions about the students' evaluation in the Department of Periodontics

Questions on evaluation of students	Very good	Good	Moderate	Poor	Very poor
Conformity between the final exam questions of the department and the materials covered in classes	13 (8.3%)	120 (76.4%)	20 (12.7%)	4 (2.5%)	0
Conformity between the final exam questions of the department and the contents of reference textbooks	11 (7%)	104 (66.2%)	38 (24.2%)	4 (2.5%)	0
Conformity between the final exam questions of the department and the knowledge necessary for practical activities	10 (6.4%)	93 (52.9%)	47 (29.9%)	3 (1.9%)	4 (2.5%)
The level of questions	14 (8.9%)	101 (64.3%)	37 (23.6%)	3 (1.9%)	2 (1.3%)
Correction of exam papers, i.e. the conformity between the grades acquired and the grades estimated by the students themselves	49 (31.2%)	86 (54.8%)	18 (11.5%)	2 (1.3%)	2 (1.3%)
Effect of the final exam of the department on the quality of practical activities	17 (10.8%)	112 (71.3%)	26 (16.6%)	0	2 (1.3%)
Effect of the final exam of the department on students' self-confidence	15(9.6%)	74(47.1%)	47 (29.9%)	14 (8.9%)	7 (4.5%)
The quality of the Department of Periodontics compared to other departments by considering the final exam of the Department	37 (23.6%)	83 (52.9%)	33 (21%)	3 (1.9%)	1 (0.6%)
Total	13.2%	61.6%	21.2%	2.6%	1.4%

researchers, similar previous studies were used, too. After designing the questionnaire, first the validity of its content, its coverage of different fields of education and clinical evaluation of the department were assessed by submitting it to 5 professors and graduates from the Faculty of Dentistry. After making the necessary revisions, the reliability of the questionnaire was evaluated by submitting it to 15 dental students at two different time intervals to complete. After evaluation of the reliability of the questionnaire with SPSS 21 software and Cronbach's alpha, the number of questions decreased to 23. Cronbach's alpha was estimated at 0.78 for the evaluation of the reliability of the final questionnaire. Data were analyzed with descriptive statistical methods (frequencies, percentages and means) and chi-squared test using SPSS 21. Statistical significance was set at $P < 0.05$.

RESULTS

Of 157 dental students participating in this study, 101 (64.3%) and 57 (35.7%) were male and female, respectively. Based on data presented in Table 1, the students expressed moderate views in relation to the education they were given on patient examination, preparing a treatment plan, management of patient, the effect of the preclinical courses in relation to clinical treatments on the practical skills of students and the clinical education presented in the Department of Periodontics. In addition, clinical education in relation to surgical treatment of gingivae, gingival diseases and dental treatments for special patients were deemed good to very good by the dental students.

Based on the dental students' opinions, educations in relation to preventive measures for

patients, i.e. phase I periodontal treatment, how to order radiography, and practical education of medical ethics by the professors in the Department of Periodontics were good to very good. Furthermore, based on data presented in Table 1 and Graph 1, in general the students believed the clinical education quality in the Department of Periodontics was good.

Statistical evaluation of the relationship between the clinical education and gender and the type of the lesson unit involved showed that there was a significant relationship only between gender and the type of the response provided for the question on quality of clinical education in relation to how to ordering radiographies ($P < 0.05$), and between the type of the lesson unit involved and the response provided to the question on the quality of clinical education in relation to treatment planning and familiarity with gingival diseases ($P = 0.02$ and $P = 0.03$, respectively). However, there was no significant relationship between questions on other aspects of clinical education and gender and the lesson unit involved.

Table 2 shows students had a good to moderate opinion about the conformity of the questions they were asked on the final exam when they finished their course in the Department with the educational materials presented in classes and the contents of the reference books, and the conformity of the exam with the knowledge required for practical activities, the level of questions, the effect of final exam of the Department on the quality of the practical activities and also the effect of the final exam on the self-confidence of students in the clinic. They also expressed good to very good opinions about the way the exam papers were corrected and also the educational quality of the

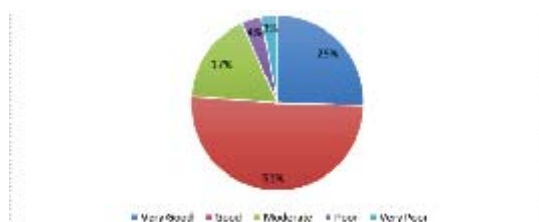


Fig. 1: Student'opinions about clinical education in the Department of Periodontics

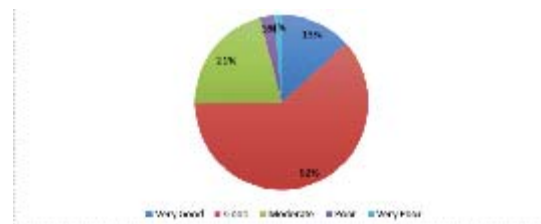


Fig. 2: Students Opinions about the students evaluation in the Department of Periodontics

Department of Periodontics compared to other departments. Based on Graph 2, the overall opinion of the students about evaluation of students in the Department of Periodontics was good to moderate.

Statistical evaluation of the questions in relation to the initial evaluation and its relationship with gender and the type of the lesson unit involved showed that there was a significant relationship only between gender and the responses provided to the question about the level of questions ($P < 0.05$), and the lesson unit involved and the responses provided to the question on the conformity of the questions in the Department final exam with the education presented in classes, the content of the reference books and the effect of the final exam of the Department on the self-confidence of students in the clinic ($P < 0.01$). However, there was no significant relationship between the initial evaluation of students and gender and the lesson unit involved.

In addition, based on the data collected from the questionnaires in relation to the final evaluation of the students in the department of Periodontics, the students believed the conformity between the grades acquired at the end of the course and the theoretical knowledge of students, the practical skills of the students, and the combined theoretical and practical skills of the students was good to moderate. Statistical analyses of the questions showed no significant relationship between the final evaluation of students and gender and the type of the lesson unit involved.

DISCUSSION

Universities, as the centers for production and imparting knowledge and providers of expert human resources for the community, have the responsibility to continuously evaluate their own status quo and prepare practical guidelines for promotion of educational quality by analyzing problems and identifying deficiencies and their reasons¹¹. Evaluation of programs is one of the important steps in education and an integral part of education in medical fields¹².

Evaluations in educational activities are as old as the educational activities themselves;

however, use of educational evaluations as a feedback for improving educational activities is a relatively new approach. Evaluation might involve the learner, the teacher, the educational program, etc. On the other hand, evaluation can be used in different levels¹³.

A study on the evaluation of teaching practical skills to medical students in Mashhad University of Medical Sciences showed that the skills of medical students were far from their optimal levels. Such an educational deficiency was detected in the emergency skills necessary for saving the patients' lives¹⁴.

The majority of studies on dental educational programs have been carried out by professional organizations, graduates, academic staff members, educational authorities and dental practitioners. However, only a limited number of studies have focused on the opinions of dental students about such issues¹⁵. It should be pointed out in relation to educational programming that the basic and the most important aspect of education is educational programming¹⁶. Educational programming should provide information and suggestions for the promotion of the clinical tutor and help establish an effective relationship between the clinical tutor and the student¹⁷.

A three-section questionnaire was used in the present study to collect data. The students were expected to choose their response out of several predetermined choices. The advantage of such questionnaires is the ease and rapidity of responding and analyzing data. In contrast, such questionnaires might limit the respondent in providing a proper response. In addition, special skills are necessary for designing such questionnaires that are comprehensive and appropriate.

In the present study, 64.3% of the students were male and were studying the 'practical periodontics 3' course. The students in general believed that the clinical teaching in the Department of Periodontics was good, but the methods used to evaluate the students were good to moderate. Based on the analysis of data, students believed that the conformity between the grades they

acquired at the end of the course and their theoretical knowledge and practical skills was good to moderate.

The results of a study by Pourheidari on the students' opinions about factors affecting the quality of clinical education in Mashhad and Shahroud Universities of Medical Sciences showed that correct educational programming affected the quality of education and prevented a decrease in students' level of learning and knowledge¹⁸. In a study by Borhan Mojabi on the status of dental clinical education in Qazvin, 45% and 60% of students believed that the physical facilities in the Departments of Periodontics and Prosthodontics were inadequate, respectively⁵.

In a study by Abedini et al on the problems of nursing and midwifery clinical education in Hormozgan, 71.2% of the students believed that deficiencies in welfare facilities were a major problem during clinical education and 37.3% believed that lack of proper educational environments was a major problem for such courses¹⁹.

A census involving the nursing and midwifery instructors in Mashhad University of Medical Sciences in relation to the clinical education of students showed that 96% of instructors believed that the educational environments and the facilities in the department did not meet the clinical education requirements of students²⁰.

The academic staff members are the most important assets of a higher education institute. One of the most important determinants of the efficacy of clinical education is the performance of tutors because they impart their knowledge and experience to students through establishing an effective relationship²¹.

A study by Borhan Mojabi in Qazvin showed that programming was not correct in many departments in relation to the professor-to-student ratio⁵. Delaram, in relation to the opinions of nursing and midwifery students in Shahr-e-Kord University of Medical Sciences about the status of clinical

education, reported that the most important strong points were observation of lesson prerequisites, timely presence of tutors and expectation for timely presence of students for apprenticeship, and availability of interested tutors with sufficient experience and skills with good and friendly behavior. Based on the students' opinion, the most important weaknesses consisted of a lack of harmony between the expectations of the personnel of the departments and the educational aims, lack of weekly clinical conferences, not paying attention to the ideas and opinions of students in programming, inappropriate number of students in departments and lack of adequate number of patients for learning, inadequate facilities, lack of use of educational aides and lack of evaluation of tutors by students⁷.

In the present study, in the clinical education fields, 64.3% of students believed that in the Department of Periodontics the preclinical period had a good effect on the practical skills of students in relation to clinical treatments. In addition, 53% of students believed that the quality of the Department of Periodontics was good compared to other departments by considering a final exam in the department at the end of the course. Approximately 60% of students believed that there was good correlation between the final exam and the knowledge and skills necessary for practical activities in the Department of Periodontics. In relation to correction of exam papers, i.e. the conformity between the grades acquired and the grades estimated by the students themselves, the majority of students were satisfied; however, in the study carried out by Delaram on the opinions of nursing and midwifery students in Shahr-e-Kord University of Medical Sciences, the majority of students were not satisfied with the clinical evaluations⁷. Farrokhi and Khadivarzadeh evaluated the common errors in the evaluation of the performance of nursing and midwifery students during clinical courses in Mashhad and reported that 62% of students believed that their grades were not correct and wanted a re-evaluation of these grades²². Faryabi et al evaluated the opinions of dental students in Kerman about the clinical evaluation using the clinical testing with objective structure and reported that 59.6% of students had

a negative view (strongly disagree), 20.3% of students had a moderate view and 20.3% had a positive view (strongly agree)²³.

Based on the students' opinions in the present study, in the field of clinical education in relation to the examination of patients, preparation of a treatment plan, management of patients, the effect of the preclinical ward on the practical skills of students in relation to clinical treatments and how the clinical education is presented in general and in the field of evaluation, the conformity between the questions on the final exam at the end of the course in the department and the educational materials presented in classes, the conformity between the questions and the contents of reference books, the conformity between the exam and the knowledge necessary for practical activities, the level of the questions, the effect of the department final exam on the quality of practical activities and the effect of the final of the department

on the self-confidence of students in the clinic was good to moderate.

CONCLUSION

In the present study, 64.3% of the students were male. Based on the general opinions of the students, clinical education in the Department of Periodontics was good; also based on the students' opinions, evaluations carried out in the department were good to moderate. Furthermore, based on the analysis of data, students believed there was good to moderate conformity between the grades acquired at the end of the course and the theoretical knowledge and practical skills of students.

ACKNOWLEDGMENT

The authors wish to thanks The Vice Chancellor for Research of Tabriz Dental Faculty for their supports.

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