Research Paper History

Evaluation of the Educational Performance of the Academic Staff Members of Tabriz Faculty of Dentistry Based on Students' Opinions

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ABSTRACT

Aim: The aim of the present study was to evaluate the educational performance of clinical specialists in Tabriz Faculty of Dentistry based on dental students' opinions in 2014.

Methods: A researcher-made questionnaire was used in the present study to collect data, which consisted of closed-end questions. The first section of the questionnaire consisted of demographic data of the subjects, including gender, the year of entrance and the educational level after the basic sciences courses period. The second section consisted of 22 questions in the fields of attention, motivation, interest, knowledge, patience, experience, teaching efficacy, professionalism, availability, provision of feedbacks, effectiveness, establishment of an effective relationship, fair behavior, mutual communication, happiness and focus on patients. The scoring system depended on the distribution of answers in the normal distribution curve. The validity of the questionnaire was determined by 5 academic staff members of the Department of Endodontics (endodontists), 2 individuals at large and 2 statisticians. The reliability of the questionnaire was confirmed by a pilot study which included 20 students and by Cronbach's alpha for the evaluation of the characteristics of efficient clinical lecturers. Data were analyzed with SPSS 17, using descriptive statistics (percentages and means ± standard deviations). Chi-squared test was used to evaluate the relationship between demographic variables (independent) and dependent variables. Statistical significance was set at $P<0.05$.

Results: Statistical analysis of data showed the highest frequency for the response "moderate" to the questions, except for questions 4, 15, 16 and 17. In over 50% of the questions, there was a significant relationship between the response (score) provided by students to the questions and age, gender and the educational level of the students ($P<0.05$). In addition, in the majority of questions, there were significant differences in the scores given to the different departments of the faculty ($P<0.05$).

Conclusion: In the present study, the majority of the responses (scores) provided by the students for questions on the different aspects of the performance of the academic staff of Tabriz Faculty of Dentistry were in the "moderate" range.

KEYWORDS Educational Performance; Staff Members; Tabriz dental faculty.

Introduction

In clinical education, both the educational and clinical principles and research themes should be taught effectively,[1-2]. In medical educational centers, clinical discussions comprise the bulk or the most important section, with the real meaning of education at clinic being the creation of the necessary conditions for coordinating the students' basic sciences knowledge, skills and diagnostic capabilities for the treatment of patients and acquiring different professional skills,[3]. Clinical environments have variable and unpredictable characteristics, which inevitably affect training of students and making the role and performance of the clinical lecturer very important; therefore, some experts believe that clinical education is more important than the theoretical education,[4-5]. Since the aim of clinical education is to create the necessary opportunities so that the students can establish a better relationship between their theoretical knowledge and scientific facts,[6] promotion of the quality of this education can result in training more capable and high-quality students in the clinic. Although a large quantity of educational material is available in relation to effective teaching in classrooms, it appears only a small proportion of these studies have focused on the efficacy of clinical teaching,[1-2,7-17].Evaluation of articles shows variations in the characteristics of efficient clinical lecturers. In 1995, Irby reported favorable characteristics for an efficient clinical lecturer, believing that the lecturer/specialist is a role model, efficient supervisor and a dynamic supporter,[18]. Finn et al (2011) evaluated the opinions of observers in relation to the characteristics of clinical lecturers and cited 5 principal abilities as the main characteristics necessary for effective clinical teaching, including the questioning strategies, the physical examination tools, taking into account the various levels of learners, a teaching method that focuses on learners and teaching efficacy or management of time,[19]. In 2005, Gerzina et al evaluated the clinical lecturers in the dental field and their students and reported that both groups respect and value sympathy, exact determination of aims and discussions on alternative treatments, indexes and attention to constant feedbacks,[20]. In 2006, Schonmetter

et al evaluated the students' understanding of teaching and relevant behaviors and reported that 94% of students' recommendations in relation to clinical teaching cover 4 items: personal adaptability, organization, enthusiasm and learning. Further evaluation of adaptability comprised 57% of all the opinions, which consisted of subjects such as friendly behavior, patience, care and respect, [7].

The aim of the present study was to evaluate the characteristics of clinical lecturers in Tabriz Faculty of Dentistry based on the students' opinions so that the results would help better understand favorable and unfavorable factors affecting clinical education in dentistry to help train more efficient students from a clinical viewpoint and promote the dental services rendered in the community.

Methods

The third-year and higher-level students (preclinic and clinic) were considered the target population. A lack of interest to take part in the study was considered the exclusion criterion. The samples size was determined using the ratio estimation formula:

$$n = Z^2 \times P(1-P) / d^2$$

where d=0.06, P=0.5, Z=1.96.

Therefore, the sample size was estimated at 250 students, who were selected randomly. The students received sufficient explanation about the study procedures and if they were eligible and willing to participate in the study, they completed the study questionnaire in the Faculty of Dentistry. The data collection tool was the research-made questionnaire which consisted of closed-end questions.

The first section of the questionnaire consisted of demographic data of the subjects, including gender, the year of entrance and the educational level after the basic sciences courses period. The second section consisted of 22 questions in the fields of attention, motivation, interest, knowledge, patience, experience, teaching efficacy, professionalism, availability, provision of feedbacks, effectiveness, establishment of an effective relationship, fair behavior, mutual communication, happiness and focus on patients. The scoring system depended on the distribution of answers in the normal distribution curve. The validity of the questionnaire was determined by 5 academic staff members of the Department of Endodontics (endodontists), 2 individuals at large and 2 statisticians. The reliability of the questionnaire was confirmed by a pilot study which included 20 students and by Cronbach's alpha for the evaluation of the characteristics of efficient clinical lecturers.

Table 1 presents the questions on the questionnaire.

Table 1. The questions on the questionnaire

Question No.	Question
1	How much attention do the professors pay to teaching theoretical and practical lessons?
2	How successful are the professors in motivating students to learn?
3	How interested are the professors in teaching and making the students learn?
4	How much mastery do the professors possess over the lessons they teach?
5	How much do the professors participate in preparing theoretical lessons and how much time do they allocate to answering the students' questions?
6	How much do the professors participate in solving the practical problems of patients and in treating them and how much time do they allocate to answering the students' questions?
7	How much time do the professors allocate to the background and non-professional aspects of lessons?
8	How available are the professors to answer the students' questions and solve their problems in understanding the lessons?
9	How capable are the professors to encourage students and provide constructive feedbacks to promote the theoretical and practical abilities of students?
10	How fair are the professors in their behavior toward male and female students?
11	How able are the professors to establish a mutual relationship with students?
12	How do you rate the professors' feeling of happiness and their positive attitudes when they teach the theoretical lessons?
13	How do you rate the professors' feeling of happiness and their positive attitudes when they teach the practical lessons?
14	To what extent do the professors exhibit patient-oriented behaviors and pay attention to the patients?
15	How do you rate the professors' abilities to teach theoretical lessons?
16	How do you rate the professors' abilities to teach practical lessons?
17	How skilled are the professors to present theoretical lessons?
18	How skilled are the professors to present practical lessons?
19	How much do you believe the professors are organized and efficient in teaching theoretical lessons?
20	How efficient are the professors in imparting knowledge to the students?
21	How much do you believe the professors are organized and efficient in teaching practical lessons?
22	How much sympathy and support do the professors exhibit in relation to the students?
23	Do the professors explain the lesson plan and cite references at the beginning of the class?
24	Are the exam questions consistent with the references cited?
25	Do the professors use educational films or virtual teaching techniques in teaching practical lessons?

Statistical analysis

Data were analyzed with SPSS 17, using descriptive statistics (frequency percentages and means ± standard deviations). Chi-squared test was used to evaluate the relationship between demographic variables (independent) and dependent variables. Statistical significance was set at $P<0.05$.

Results

Table 2 presents the scores (responses) given to the different departments of the faculty by the dental students. Statistical analysis of descriptive data showed that the highest frequency of the responses belonged to "moderate" except for questions 4, 15, 16 and 17.

Table 2. The frequencies and percentages of responses given by the students to questions 1–22

Question No.	Frequency (%)				
	Very low	Low	Moderate	High	Very high
1	1(0.4)	19(7.7)	122(49.2)	99(39.9)	7(2.8)
2	3(1.2)	40(16.1)	124(49.6)	71(31.9)	3(1.2)
3	2(0.8)	39(15.7)	106(42.7)	93(37.5)	8(3.2)
4	2(0.8)	5(2)	81(32.7)	130(52.4)	30(11.8)
5	1(0.4)	16(6.4)	115(46.2)	108(43.4)	9(3.6)
6	2(0.8)	24(9.7)	125(50.6)	86(34.8)	10(4)
7	7(2.8)	81(32.7)	98(39.5)	58(23.4)	4(1.6)
8	1(0.4)	40(16.1)	114(45.8)	82(32.9)	12(4.8)

9	1(0.4)	35(14.1)	120(48.2)	79(31.7)	14(5.6)
10	4(1.6)	59(24.1)	81(33.1)	90(36.7)	11(4.5)
11	2(0.8)	50(20.4)	116(47.3)	61(24.9)	16(6.5)
12	2(0.8)	53(21.3)	112(45)	73(29.3)	9(3.6)
13	3(1.2)	40(16.1)	117(47.2)	82(33.1)	6(2.4)
14	1(0.4)	24(9.8)	102(41.5)	108(43.9)	11(4.5)
15	0	9(3.6)	92(36.7)	131(53)	15(6.1)
16	0	20(8.1)	94(38.1)	120(48.6)	13(5.3)
17	0	16(6.5)	84(34)	136(55.1)	11(4.5)
18	0	22(8.8)	111(44.8)	100(40.3)	15(6)
19	1(0.4)	17(6.8)	108(43.7)	107(43.3)	14(5.7)
20	3(1.2)	33(13.3)	116(46.8)	87(35.1)	9(3.6)
21	2(0.8)	32(12.9)	103(41.5)	96(38.7)	15(6)
22	8(3.2)	91(36.8)	93(37.1)	53(21.5)	2(0.8)

Table 3. The frequencies and percentages of responses given by the students to questions 23–25

Question No.	Frequency (%)	
	Yes	No
23	230(92.7)	18(7.3)
24	166(67.2)	81(32.8)
25	52(21.1)	194(78.9)

Table 4 presents the results of statistical analyses of the students' responses and the significant or insignificant relationship between the questions in different sections of the questionnaire and age, gender and the educational level of the students.

Evaluation of the relationship between the scores and the different departments of the faculty showed such significant relationships except for questions 4, 14, 16, 17 and 19.

Table 5 shows the departments with the highest and lowest scores.

The relationship between the responses and the students' ages were significant in only 8 questions as follows:

- In relation to question 4 in the Department of Prosthodontics, students who were at an age range of 20–23 had given a higher score to the theoretical and practical mastery of the professors in the department compared to other age groups. In the department of Endodontics, students at the 28–31-year age group had given a higher score to the theoretical and practical skills of the professors in the department compared to other age groups.
- There was a significant relationship between the students' ages and their responses to question 9 in the Departments of Prosthodontics and Orthodontics. Students in the 24–27-year age group had given lower scores to the professors' ability in the Department of Prosthodontics to encourage students and provide constructive feedbacks to promote academic and practical abilities of students but had given higher scores to the professors in the Department of Orthodontics in this respect compared to other age groups.
- There was a significant relationship between age and the students' responses to question 10 in the Department of Oral Medicine. Students in the 28–31-year age groups had given a higher score to the fair behavior between male and female students by the professors in the department compared to students in other age groups.
- There was a significant relationship between age and the students' responses to question 11 in the Department of Operative Dentistry. Students in the 20–23-year age group had given higher scores to the ability of the professors in that department to establish a mutual relationship with students compared to other age groups.
- In relation to question 14 in the Departments of Oral Pathology and Maxillofacial Surgery students in the 24–27-year age group had given a higher score to the professors' patient-oriented behaviors in the department and their efforts in teaching practical lessons s compared to other age groups. In the Department of Prosthodontics, students in the 20–23-year age groups gave higher scores to this question.

Evaluation of the relationship between gender and scores given to the different departments of the faculty revealed the following:

- There was a significant relationship between gender and the students' responses to questions 12 and 13 in the Department of Pediatric Dentistry. Female students gave higher scores to the professors of the department in relation to these questions compared to male students.
- There was a significant relationship between gender and the students' responses to question 16 in the Department of Pediatric Dentistry. Male students gave higher scores to the professors in the department in relation to this question compared to female students.
- There was a significant relationship between gender and the students' responses to question 20 in the Department of Endodontics. Female students gave higher scores to the professors in the department on this question compared to male students.

Evaluation of the students' educational levels and their responses to the questions showed that in the Department of Orthodontics there were significant differences in the majority of questions except for questions 2, 7 and 25. In the other cases, the scores given to the professors by preclinic students were higher than those given by the students in the clinic.

Table 4. The relationship between the variables evaluated and the questions

Question No.	Departments evaluated	Respondents' age	Respondents' gender	Respondents' educational level
1	S*	NS	NS	NS
2	S	NS	NS	Significant in Orthodontics
3	S	NS	NS	NS
4	NS*	NS	NS	Significant in Orthodontics
5	S	NS	S	Significant in Orthodontics
6	S	NS	NS	Significant in Orthodontics
7	S	NS	NS	Significant in Orthodontics
8	S	NS	NS	NS
9	S	Significant in Orthodontics and Prosthodontics	NS	Significant in Orthodontics
10	S	Significant in Oral Medicine	NS	Significant in Orthodontics
11	S	Significant in Operative Dentistry	NS	NS
12	S	NS	Significant in Pediatric Dentistry	Significant in Orthodontics

13	S	Significant in oral Pathology	Significant in Pediatric Dentistry	NS
14	NS	Significant in Prosthodontics and Endodontics	NS	NS
15	S	NS	NS	NS
16	NS	NS	Significant in Operative Dentistry	NS
17	NS	NS	NS	NS
18	S	NS	NS	Significant in Orthodontics
19	NS	NS	NS	NS
20	S	NS	Significant in Endodontics	NS
21	S	NS	NS	NS
22	S	NS	NS	NS
23	S	NS	NS	Significant in Orthodontics
24	S	NS	NS	NS
25	S	NS	NS	Significant in Orthodontics

S* There was a significant relationship between the scores given and the different departments of the faculty.

NS* There was no significant relationship between the scores given and the different departments of the faculty.

Table 5. The departments with the highest and lowest scores on the questions

Question No.	Highest scores	Lowest scores
1	Prosthodontics	Surgery
2	Radiology	Surgery
3	Pathology	Surgery
5	Endodontics	Surgery
6	Prosthodontics	Surgery
7	Prosthodontics	Surgery
8	Radiology	Surgery
9	Radiology	Periodontics
10	Radiology	Surgery
11	Radiology	Endodontics
12	Radiology	Pediatric Dentistry
13	Radiology	Pediatric Dentistry
15	Radiology	Pediatric Dentistry
18	Operative Dentistry	Pediatric Dentistry
20	Radiology	Pediatric Dentistry
21	Radiology	Pediatric Dentistry
22	Radiology	Pediatric Dentistry
23	Radiology, Endodontics	Pediatric Dentistry
24	Prosthodontics, Oral Medicine	Pediatric Dentistry
25	Pathology	Pediatric Dentistry

Discussion

Clinical education in density requires special attention due to the great volume of practial lessons and the wide extent of skills that should be learned. Clinical education is a dynamic process during which the students apply the theoretical lessons they have learned in the clinic step-by-step through attending the clinic under the supervision of professors,[11,21-22]. Universities should train students that will have sufficient capacities and skills for prevention, treatment and promotion of health status of the community, [6,23]. Clinical atmospheres have a major and key role in the students' learning processes because they provide the students with a real opportunity to deal with patients and pave the way for application of the theoretical knowledge of students to practical fields,[20].

Different variables affect the outcomes of learning, including the individual teaching the lesson to the students, i.e. individuals who teach the theoretical and practical lessons to students as academic staff members in different faculties of medical sciences universities all over the country [24-25].

Based on previous studies, the most important strong points of the academic staff members, according to students' opinions, was their correct behavior toward the students, punctuality in the ward/department, observation of the necessary prerequisites and the stages of clinical education, supporting the students and supervision over the clinical education procedures, [8-11].

The most important weak points consisted of not using educational aids in the clinical fields, lack of coordination between the theoretical and practical lessons and lack of evaluation of professors by students,[21-23].

In the present study, some of the factors mentioned above along with some other factors referred to in different studies for an ideal lecturer were prepared and handed in to students to score in different departments of Tabriz Faculty of Dentistry. The questions were in different fields, consisting of the lecturer's/professor's behavior, mastery of the theoretical lessons and the mechanism of evaluating the students. The scores were in general in the moderate to high range.

The higher education is a dynamic, complex and purposeful system and has two qualitative and quantitative dimensions. The growth and development of this system involves the growth of both these dimensions simultaneously and an accurate process is required for its evaluation,[20-25].Evaluation is the most important part of each program and is one of the most difficult aspects of the management of human resources, which has been deemed as a vulnerable area of management because it is the only item that can help determine the deficiencies of a program and overcome them. An effective evaluation not only has a great role in screening students, but also it increases the students' motivation and helps the professors and lecturers evaluate their own activities; it also helps determine the students' learning efficacy and the achievement of the educational goals,[23-24].

Apart from evaluation of students carried out by professors, the evaluation of the educational process should be emphasized in educational systems because training of skilled human resources depends, to a great extent, on this process,[18-20].The key to success of a system is to satisfy the clients which are the students of that system,[24]. Therefore, their satisfaction with the system and their engagement in different fields of evaluation of the quality and quantity of education, including the academic staff members, can help improve the educational system.

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