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Research Article

Assessment of Oral Medicine Educational Objectives Achievement

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Abstract

Introduction: Evaluation of teaching effectiveness can improve dentistry education in dental schools. The purpose of this study was to evaluate educational objectives achievement in oral medicine department of Hamadan dental school.

Methods: In this cross-sectional study an evaluation chart and a questionnaire were used. The evaluation charts were fulfilled by one of the assistant professor of oral medicine department. The evaluation was based on student skills; and completed questionnaires including individual information at first and fulfilled multiple-choice questions secondly. Educational objectives achievement of the curriculum was determined in general and for each topic according to the evaluation chart and the questionnaire. Data were analyzed using Chi-square and ANOVA with SPSS software.

Results: Educational objectives achievement was favorable in 3.4%, relatively favorable in 70.7%, and unfavorable in 25.9% of the dental students (n=58). The goals achievements of various educational topics were favorable and relatively favorable in approximately two thirds, and unfavorable and unacceptable in one third of the students. Age, gender and marriage have not any significant correlation with the educational goals (p>0.05).

Conclusion: This study showed that the educational objectives achievement in oral medicine was in a favorable and relatively favorable level for a majority of senior students.

Key words:

Oral medicine; Education; Goal

Introduction

A dentist is required to offer the best possible treatment and health care to patients based on academic learning and practical skills. The curriculum of dental education includes the components of dynamic thinking, professional performance, communication skills, health promotion and knowledge. In addition the students must train for best treatment and health promotion in all accepts of patients care. [1]

Development or improvement of an individual's or a curriculum efficiency can obtain by assessing educational objectives achievements in dental faculty [2] As a general rule, learning is an individual process which takes place as a result of continual and reciprocal interaction with the educational environment. In fact the student learns new things based on past experience. [3]

The purpose of assessing education of health-related professions is to determine a capacity of students to learn and perform a variety of educational contents under conditions similar to actual conditions. [4] Assessment is an essential part of any successful educational system. During this process, knowledge, skill, educational processes and professional values must be attending [5]. Principally, the data gathered are to be applied to improve student's education which alteration in methods of teaching seems to be necessary [6]. Educational centers should assess various aspects of education on a regular basis to find out the effectiveness of education, the achievement of educational objectives in an organization and also train students with higher levels of scientific knowledge. [7] Supervision of individual practices especially in the long run is the best method of assessment at this level. [8] Studies about student's assessment are the most important element of the learning process [9, 2].

The self-assessment of students, teachers or a combination of them is various methods of assessment [10].

In a different survey, the internal assessment of educational program is considered as a significant role of medical sciences universities, since providing and promotion of social health depends on the extent of curricula goals achievement .In addition, a revision of poor educational program is recommended to promote good clinical education and an increase in the number of skilled [11]

Surveys carried out in various countries showed relatively poor educational objective achievement [12,13,14], although other studied showed desire goals achievements [15,16,17,18]. It seems essential that a revision be done in the extent of students' learning and individual knowledge in the field of oral medicine because of the importance of education, assessment, limited surveys, and importance of oral disease diagnosis for undergraduate dental students. . The purpose of this study was to determine the level of achievement of educational objectives in the department of oral medicine among senior dental students of Hamadan University of Medical Sciences in the year 2009.

Materials and Methods

In this cross-sectional study the subjects were all seniors students of Hamadan dental school in 2009 (n = 58) who had passed theoretical and practical courses in oral medicine. To carry out the study, an assessment form and a questionnaire were used. The forms and questionnaire were prepared by assistant professor of oral medicine of Hamadan dental school in according to educational program of oral

medicine. The validity of the questionnaire was discussed and approved by five of the professors, and the reliability was determined using test-retest. The questionnaires filled by 15 senior students and then refilled two weeks after its completion and Cronbach's alpha coefficient showed desired validity.

The questionnaire consisted of 61 questions including 46 multiple choice questions related to cognitive knowledge for oral medicine. Fifteen slide questions consisting images of oral disease, lesions and their anatomy that was related to skills. Practical assessment was based on extra oral, intraoral examination and medical history taking. All the subjects were assessed in a session similar to theoretical and practical exams, and a code was assigned for each student.

An assessment form consists of all subjects was completed by one associate professor of oral medicine. To do this, the professor evaluated each student's knowledge and performance by practical skills based on patient examination, medical and dental history taking.

The questionnaire included two sections: biographic data and the questions. In the first section, personal information such as gender, age and marital status was included. To evaluate the students score, second part of t questionnaire was divided in to two parts.

1. Multiple choice questions utilizing MCQ, questions, slides and history as well as examinations through mini-CEX [19, 20]. The mini clinical evaluation exercise or mini-CEX is a" reliable tool for performance assessment of medical graduates, and is acceptable to and well received by both learners and supervisors" [19].

2. This part consists of 61 other questions completed by the professor using each student's answer sheet. All answer sheets were coded, and the next sections of the assessment form were completed using codes. All questionnaires were anonymous. For students participating in the study were explained that the results of this evaluation will have no effect on their grades.

The two sections included 46 multiple choice questions and 15 diagnoses on slides. The questionnaire pertained to theoretical and practical courses determined by the Higher Council of Programming and approved by professors of the oral medicine department.

Based on the results from the assessment form and answers to the questionnaires, the extent of oral medicine objective achievement was determined in 5 main topics in general and 28 educational topics on theoretical as well as practical subjects in detail. From the questions concerning oral landmarks shown on slides, 7 correct diagnoses of landmarks (> 75%) were scored as favorable, 5 landmarks (50-70 %) as relatively favorable, 3 landmarks (25-50%) as unfavorable, and 2 landmarks (25% >) as unacceptable. Questions were rated favorable, relatively favorable, unfavorable and unacceptable based on the student's achievement of educational objectives. Also, the relation between the rate of achievements of educational objectives and gender, age, and marital status was indicated.

Theoretical knowledge is assessed with multiple choice questions which evaluates knowledge at the lower level of educational objectives. In the other hand, one's power of analyzing an issue and interpreting it and then acting on it in standard, as well as actual situations is not taken into account. A few slides were included in the questionnaire whose correct diagnosis could be indicative of a student's performance and skills in standard conditions. The student's performance and practical skills were assessed through the professor's supervision and filling out an assessment form.

The data obtained were analyzed through SPSS, version 15. To find the correlation between the level of achievement of educational objectives and age, ANOVA test was used. The comparison between two genders, and also married and unmarried students were analyzed through the chi-square test.

Results

Fifty eight senior dentistry students – 33 females and 23 males – were participated in this study. Table 1 shows frequency of educational objectives achievement in the oral medicine department among senior students of Hamadan dental school based on the curriculum in 5 main topics. Of the 58 subjects, the general achievement of objectives was favorable in 3.4%, relatively favorable in 70.7% and unfavorable in 25.9%.

General educational objectives in oral medicine department	Assessment of achievement of educational objectives			
	favorable N (%)	relatively favorable N(%)	Unfavorable N (%)	Not acceptable N(%)
Principles of examination	6(10.3)	30(51.7)	16(27.6)	6(10.3)
landmarks, normal variation developmental anomalies	17(29.3)	14(24.1)	19(32.8)	8(13.8)
primary – lesions	6(10.3)	31(53.4)	18(31)	3(5.2)
Infectious: bacterial, fungous, viral	2(3.4)	42(72.4)	10(17.2)	4(6.9)
White and red lesions	7(12.1)	28(48.3)	14(24.1)	9(15.5)

Table 1: Distribution of general educational objectives achievement in the oral medicine department in senior dental students of Hamadan University of Medical Sciences

The general achievement of objectives was not at all favorable among male students and was as follow: 66.7% (22 subjects) relatively favorable and 33.3% (11subjects) unfavorable. In the female students 8.7% (2 subjects) were rated favorable, 73.9% (17 subjects) were rated relatively favorable and 17.4 % (4 subjects) unfavorable. There was no significant correlation between genders and educational objective (chi square p=0.12).

Objectives achievement among unmarried students was as Follow: 6.9% (2 subjects) favorable, 72.4% (51 subjects) relatively favorable and 20.7% (6 subjects) unfavorable. In married students, 65.4% (17 subjects) were relatively favorable and 34.6% (9 subjects) unfavorable. There was no considerable statistical difference between married and unmarried students in educational objectives achievement (chi-square p=0.24).

According to the findings educational objectives achievement were lowered with age increasing. ANOVA test did not show any statistical significant difference (ANOVA P = 0.22). (Table 2)

Assessment	Number	Mean age	Age Standard Deviation	p value
favorable	2	32	-	P= 0.22
relatively favorable	36	30.3	8.45	
Unfavorable	12	33.58	8.93	
* ANOVA				

Table 2: Comparison of ages of senior dental students of Hamadan University of Medical Sciences based on general assessment of educational objectives achievement in oral medicine department

Discussion

Educational assessment is a continual process which is essential for promotion of a student's learning [21].

Assessment of educational objectives achievement and effectiveness of educational methods is very important in universities .It seems that such studies in dentistry are rarely done and also studies relating the various aspects of assessment of education in dentistry are very restricted. In a review study Albino reported there were 150 researches on the assessment of education in dentistry in the past 30 years [5].

Differences in educational systems in various countries make it necessary for any educational center to devise its own techniques to assess achievement of educational objectives in accordance with its own educational structures. In this study, assessment of educational objectives in the oral medicine department is carried out on the basis of the students' knowledge and performance.

In general, assessment of students can be done at four levels:

1. The knowledge 2. Attitude 3. Demonstration 4. Performance [8]

The results of our study showed that objectives achievement was favorable and relatively favorable in more than 70% of the students, generally. Two thirds of the students were favorable and relatively favorable about 5 main objectives the achievement of objectives was not similar in the entire educational program. The students were in higher level at some topics whereas the level of skills and knowledge were lower in few students.

Based on the findings of this study, there was no statistical significant difference between male and female students in regard to achievement of educational objectives. Dukes and Victoria as well as Amin also did not show any evidence about the effect of gender on the results of the assessment [22, 23]. The present study also indicates that marital status and age of the students were not effective on the educational objectives achievement. Some other parameters seem to have had more effect on the results of educational assessment. In one study the rate of educational objectives achievement in the Orthodontic Department of Shiraz University was assessed as favorable [24]. The achievement of educational objectives based on this study was relatively favorable in contrast to other studies in which the students' level of education had been reported not favorable or unfavorable [13, 14] . However, in some cases, results seem unfavorable. It seems the improvement of educational quality is essential. In addition, to promote the level of education it is necessary: to performance similar studies with different methods of assessment, curriculum review in according to dental graduate's skill and continual annual assessment in each department [25]. There were advantages and disadvantages in each of two methods of assessment applied in this study (questionnaire and assessment form). Consequently, utilization of these two methods covered the deficiencies of the other method which was a positive point in this study and gave the results more validity.

Based on this study it seems that:

Assessment of educational objectives achievement should be done continuously in all educational departments.

The achievement of educational objectives may be unfavorable and continues evaluation is very useful to understand educational deficiencies.

Some topics needs more attention than the other topics and difficult topics should be educated exactly for students and dental practitioners

Conclusion

The rate of educational objectives achievement in the oral medicine department based on the educational program was favorable and relatively favorable in two thirds of senior students of dentistry. This rate was unfavorable or not acceptable for the other one third of the students. Finally for improving the educational skills further planinig is necessary.

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