



Prevalence of dental anxiety among medical and dental undergraduates in Qassim University

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Abstract

Objective: To assess the prevalence and level of dental anxiety among medical and dental undergraduates enrolled at Qassim University.

Material and Methods: A descriptive cross-sectional study was conducted in which the Modified Corah Dental Anxiety Scale was used to measure the dental anxiety among the study population. Eight hundred and two subjects were recruited into the study from Qassim undergraduates of Medical and Dental colleges.

Results: Five hundred and twelve complete questionnaires were returned, which accounts for a response rate of 66.7% %. About 88.5% of the medical students has scored 19 or more. Dental students had the lowest percentage of those who scored 19 or more. Although males demonstrated higher total dental anxiety scores than females, there was no statistically significant difference. The students were anxious mostly about tooth drilling and scaling.

Conclusion: Dental anxiety is a common difficulty encountered among medical and dental students who represent future health care professionals. Also, high level of dental anxiety leads to turn away from the dental treatment.

Keywords: dental anxiety, medical students, dental students

Introduction

Anxiety is known as an intuitive, vague and unpleasant feeling that something undesirable is going to happen, while fear is the anticipation of threat obtained by an identifiable source [1]. However, the terms of dental fear and anxiety are often used interchangeably [2].

Fear from dental treatment and dentist is widespread distressing problem for the dentist [3]. Anxious patients were considered among the most stressful and difficult situations a dentist might face [4]. Anxiety may have an impact to the dentist-patient relationship and it may cause to misdiagnosis and lead to complications [3]. Avoidance of dental care could be attributed to dental fear and anxiety in many patient and therefor affects their quality of lives [5].

A study into dental fear involving 169 Japanese dental and nursing students between 18 and 37 years of age found that the most fear-provoking items were the sight and feeling of the needle and the sound and feeling of the drill [7]. This uncomfortable and annoying sensation often leads patients to putting off dental care [6].

An investigation carried out in Jordan with 600 undergraduate students of medicine, engineering and dentistry found that dental students had lowest percentage of dental anxiety (11.22%) and medical students had the highest percentage (13.58%) [5].

Many scales were developed in order to assess dental anxiety. Corah Dental Anxiety Scale was proven to be popular and Widely used among dental researchers. It is a simple, easy to score, Quick to complete, valid and reliable test for dental visit-associated anxiety [8].

Humphris, Morrison and Lindsay (1995) provided a modified scale from the original Corah Dental Anxiety Scale. The Modified Dental Anxiety Scale was shown to be more comprehensive, highly valid and reliable, Acceptability in respondents is high and more consistent answering system. The Modified Dental Anxiety Scale will be, therefore, used to measure dental anxiety in the current study [9].

Material and Methods

The study was approved by the research ethics committee of University of Qassim. This descriptive cross-sectional study was conducted on dental and medical students of university of Qassim. The questionnaire was distributed to all the students from the first to fifth year dental and medical colleges. The total number of the study population was the entire enrollment of the medical (595) and dental (207) undergraduates of the University of Qassim in the 2015/2016 academic year. Exclusion criteria comprise all students who are from college other than medicine or dentistry and those from other institution. The students were informed about the study and all the points in the questionnaire were explained and clarified. Its voluntary nature was emphasized and confidentiality was assured.

Questionnaire

The questionnaire was composed of three sections. Section A, includes the participant's demographics: their age, gender, marital status, specialty and the level of education. Section B composed of questions to the study subjects whether they have ever visited the dental clinic, for what reason and how many

times. Section C includes the modified Corah Dental Anxiety Scale. A simplified 5-point scale-answering scheme was devised ranging from not anxious to extremely anxious.

The modified dental anxiety scale (MDAS) is comprised of 5 multiple-choice items including the followings: how would you feel, if you:

- 1 = went to your dentist for treatment?
- 2 = were sitting in the waiting room?
- 3 = were about to have a tooth drilled?
- 4 = were about to have your teeth scaled and polished?
- 5 = were about to have a local anesthetic injection in your gum?

The scores for each of the 5 item responses were summed up to give an estimated value of dental anxiety.

There will be two categories based on severity of the anxiety:

- 1- High dental anxiety students (cut off value 19 or above).
- 2- Moderate to low dental anxiety (18 and below).

Statistical Analysis

Data has been collected and entered to the computer using SPSS (Statistical Package for Social Science) program for statistical analysis, (version 21). Qualitative data were presented as frequencies and percentages, while quantitative data were presented as means and standard deviations. Chi-square test was used as appropriate to determine the differences between groups. P-value < 0.05 was considered to be statistically significant.

Results

Out of the eight hundred and two questionnaires distributed, 535 were returned. Twenty-three questionnaires were partially completed and thus excluded from the study. The total number of the participants in the current study was therefore 512, which accounts for a response rate of 66.7% percent. The mean age of the subjects was 21.6 ± 1.6 years. The distribution of the participants according to gender and field of study is presented in Table 1.

Table 1: Distribution of the subjects according to gender and the study field.

Gender	Medical Students	Dental Students	Total
Males	206	100	306
Females	113	93	206
Total	319	193	512

Results of the study revealed that 3 of the 4 questions regarding visiting the dental clinic exhibited statistically significant difference between medical and dental students. The majority of medical students (84%) never visited the dental clinic compared to dental students whom only (15.2%) of them never did. Regarding the reason of the visit, (55.3%) of medical students went for dental treatment. On the other hand, (46.2%) of dental student are attending dentist for checkup. 50.5% of medical students visit the dental clinic every year compared to (49.5%) of dental students. (Table 2).

Table 2: Distribution of the study subjects according to their answers to section 2 questions.

Question	1. Have you ever visit a dental clinic?			
	Yes	No	P-value	
Medical	280 (60.1%)	39 (84.8%)	.001	
Dental	186 (39.9%)	7 (15.2%)		
Question	2. If yes for what reason?			
	Dental pain	dental appointment	Check up	
Medical	151 (64.5%)	114 (55.3%)	50 (53.8%)	
Dental	83 (35.5%)	92 (44.7%)	43 (46.2%)	
P-value	0.340	0.008	0.060	
Question	3. How often do you visit the dental clinic?			
	Every Year	On Appointment only	I don't visit dental clinic	P-value
Medical	55 (50.5%)	201 (61.3%)	63 (84%)	0.000
Dental	54 (49.5%)	127 (38.7%)	12 (16%)	

Table 3 shows that, out of the several anxiety scale items, a statistical significance difference (P =.007, P =.000) was found between the medical and dental students in tooth drilling (Item 3) and scaling and polishing of teeth (Item 4). Medical students were extremely anxious about scaling and

polishing of teeth (91.7%) and about tooth drilling (82.8%) than dental students. However, for the items 1, 2, and 5, no statistical significance was found between dental and medical students.

Table 3: Items 3, 4 and 5 scores of the study groups based on specialty.

If you were about to have a tooth drilled, how would you feel?						
Specialty/ Scale	Not anxious	Slightly anxious	Fairly anxious	Very anxious	Extremely anxious	P-value
Medical	74(54.8%)	103 (59.5%)	63(61.8%)	55 (75.3%)	24(82.8%)	.007
Dental	61(45.2%)	70(40.5%)	39(38.2%)	18 (24.7%)	5 (17.2%)	
If you were about to have your teeth scaled and polished, how would you feel?						
Specialty/ Scale	Not anxious	Slightly anxious	Fairly anxious	Very anxious	Extremely anxious	P-value
Medical	106 (47.5%)	109 (64.5%)	69 (84.1%)	24 (92.3%)	11 (91.7%)	.000
Dental	117 (52.5%)	60 (35.5%)	13 (15.9%)	2 (7.7%)	1 (8.3%)	
If you about to have a local anesthetic injection in your gum, above an upper back tooth, how would you feel?						
Specialty/ Scale	Not anxious	Slightly anxious	Fairly anxious	Very anxious	Extremely anxious	P-value
Medical	83 (64.8%)	108 (59.7%)	58 (59.8)	39 (60.9%)	31 (73.8%)	.468
Dental	45 (35.2%)	73 (40.3%)	39 (40.2%)	25 (39.1%)	11 (26.2%)	

Table 4 presents a statistical significant difference in the total anxiety scores of the two groups based on the field of study. A higher percentage of medical students (88.5%) are having high dental anxiety as compared to dental students.

Table 4: The total anxiety scores of the two groups based on the field of study.

Specialty/ Scale	High dental anxiety	Moderate to low dental anxiety	P- value
Medical	23 (88.5%)	296 (60.9%)	.005
Dental	3 (5.1%)	190 (39.1%)	

Table 5 shows the total anxiety scores according to gender, (65.4%) of the males were more anxious than females. However, there was no statistical significance between the two groups.

Table 5: The total anxiety scores of the two groups based on the gender.

Gender/ Scale	High dental anxiety	Moderate to low dental anxiety	P- value
Male	17 (65.4%)	289 (59.5%)	.549
Female	9 (34.6%)	197 (40.5%)	

Discussion

Present study was conducted to assess the level of dental anxiety among medical and dental undergraduates enrolled at Qassim University. It revealed that dental students do have lower levels of dental anxiety than their medical counterparts. The MDAS's scores showed that severe dental anxiety was mostly associated with drilling and Scaling.

A total score of 19 or more indicates a highly anxious patient [10]. The medical students showed the highest total anxiety scores and the greatest percentage of subjects scoring 19 or more. The medical students were already expected to score the highest anxiety scores as they do not receive enough dental awareness education, although they are supposed to be more familiar with stress management related to health measures. The findings of this study suggested that 5.1% of respondents recruited from medical and dental faculty severe dental anxiety.

These findings are lower than the prevalence of dental anxiety reported by previous studies [3, 5, 11]. Woodmansey [12] reported the prevalence of severe dental anxiety as 5%, whereas, Madafa [3] found that the prevalence of high to severe dental anxiety was 12%.

Lack of the dental health education might result in patients' anxiety which in turn might end with uncooperative patients. This will make it more difficult to treat patients and yield difficult patients and thus increase the levels of dental profession-related stress [13].

Assessing the level of patient anxiety before the dental treatment may offer a great expectation to the probable patient attitudes and behavior towards the treatment. This information will be used in developing the best strategies to manage patient anxiety.

In Saudi Arabia, only dental students receive adequate dental health education as it is an important part of their curriculum. Saudi's schools and universities pay little attention to the

dental health education of their students. Since the dental health education is generally ignored in the schools, medical students still have the same ideas about the dental care at the university. On the other hand, dental students do have the opportunity to understand the dental health care and thus will have the chance to develop a better dental behavior.

In this study (65.4%) male students were found to have higher levels of dental anxiety in both groups. However, a previous study in Jordan [5] showed higher levels of dental anxiety among women. However, in the current study, there was no statistically significant difference between men and women.

The importance of dental health programs and prevention protocols can not be overemphasized in the reduction and control of dental anxiety. Schools as well as non-dental university curricula should include dental health education in order to help reduction of dental anxiety among the population.

Conclusions

It was concluded that the overall prevalence of dental anxiety among dental students was low. Medical students were very anxious about dental treatments. Men demonstrated higher dental anxiety scores than women. The students were mostly anxious about tooth drilling and scaling.

Although the current study investigated the levels of dental anxiety among university students from different fields of study and the sample size was representative and large, future studies on relationship of dental anxiety with the factors causing such fear should be carried out.

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