

Over Dental Anxiety Problems Among University Students: Perspective from Pakistan

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ABSTRACT

Oral health seeking behavior is compromised by dental anxiety, and affects quality of life. This preliminary study using convenience sampling was conducted among university students in the cities of Islamabad, Rawalpindi, and Multan, Pakistan, using standardized, valid and reliable scales to determine the prevalence and correlates of dental anxiety. Cumulatively 503 students including 278 males and 225 females, completed the questionnaire. High to severe anxiety on Dental Anxiety Scale-Revised was reported by 60 (21.6%) males and 54 (24%) females. Seventy-five (27%) males and 62 (27.6%) females reported being quite afraid to very afraid on Dental Anxiety Question. Results underline the need for population-based representative studies to determine the prevalence and correlates of dental anxiety for better dental health in Pakistan.

Key words: Dental diseases. Anxiety. University student. Pakistan. Dental anxiety scale-revised.

Dental treatment provokes anxiety, impacts oral health seeking behavior and compromises quality of life.¹ Oral diseases are important public health concerns and their prevalence is increased by dental anxiety.¹ Prevalence estimates of dental anxiety in general population exhibit wide variation. The lowest dental anxiety prevalence was reported by a study conducted in Norway, with a point prevalence of 4.2%, using Corah's Dental Anxiety Scale in a representative sample of 3670 adult individuals.² A recent Dutch study reported a point prevalence of dental anxiety to be 24.3% in adult population, based on a sample of 1959 individuals; using Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV-TR subtypes of specific phobia.³ While a study in Jordan reported 32% of medical, dental and engineering students having dental anxiety among a sample of 535 students; using Modified Dental Anxiety Scale (score of ≤ 15).⁴ This is the first study evaluating the prevalence of dental anxiety in Pakistan.

A cross-sectional survey with convenience sampling was conducted among university students in the cities of Islamabad, Rawalpindi, and Multan to study perspectives on dental anxiety from May to December 2007. Six graduate students approached students of both genders on the campus premises of various universities in these three cities, and after obtaining

verbal consent handed-out the questionnaire and collected the completed ones. Only those students, enrolled in masters or higher programs and aged 30 or less were asked to complete the questionnaire. Dental anxiety was evaluated by using the four-question revised Dental Anxiety Scale (R-DAS);⁵ a reliable and validated scale based on Corah's DAS.^{1,6} Each DAS-R question has five multiple choices ranging from most relaxed coded as 1, to most anxious coded as 5. The scoring on four questions of the R-DAS results in a minimum score of 4 and a maximum score of 20. Score of ≥ 13 is considered as highly anxious. Dental Anxiety Question (DAQ), a single-question measure of dental anxiety was also used; which has been found to be valid and reliable.⁷ DAQ is a one item construct: "Are you afraid of going to the dentist?" with possible responses as "no", "a little", "yes, quite" and "yes, very" and was scored from 1 to 4. The actual questionnaire used had four questions from R-DAS, DAQ, and additionally questions on age, gender, degree enrollment, and whether they had visited a dentist in the past one year. MINITAB version 15, was used to analyze the data.

Cumulatively 503 students; 278 males and 225 females, completed the questionnaire. The mean age was 23.5 ± 2.05 years for males and 22.1 ± 1.8 years for females. Eighty percent ($n=404$) of students were enrolled in the masters program, while the rest were enrolled in M.Phil or doctoral programs. One hundred and thirty-one (47.1%) male students and 75 (33.3%) female students had consulted a dentist in the past twelve months. No discernable differences were observed between students from the three cities.

Table I depicts the levels of anxiety by DAS-R and DAQ in both genders, while Table II shows the results of mean individual item and total anxiety scores from DAS-R by

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Received August 18, 2010; accepted February 2, 2011.

Table I: Levels of dental anxiety by scale and gender in university students.

Scale	Male n (%)	Female n (%)
Dental Anxiety Scale - Revised (DAS-R)*		
Score 4 – 8 (Mild / no anxiety)	85 (30.6)	58 (25.8)
Score 9 – 12 (Moderate anxiety)	133 (47.8)	113 (50.2)
Score 13 – 14 (High anxiety)	34 (12.2)	36 (16)
Score 15 – 20 (Severe anxiety)	26 (9.4)	18 (8)
Dental Anxiety Question (DAQ)		
Are you afraid of going to the dentist?		
No	111 (39.9)	84 (37.3)
A little	92 (33.1)	79 (35.1)
Yes, quite	49 (17.6)	42 (18.7)
Yes, very	26 (9.4)	20 (8.9)

* Each of four DAS-R question has five multiple choices, ranging from most relaxed coded as 1, to most anxious coded as 5.

Table II: Mean individual item and total anxiety scores on Dental Anxiety Scale-Revised (DAS-R), by gender.

Four questions of DAS-R *	Male Mean (SD)	Female Mean (SD)	p-value (t-test)
1. If you had to go to the dentist tomorrow for a check-up, how would you feel about it?	2.79 (1.3)	2.98 (1.07)	0.051
2. When you are waiting in the dentist's office for your turn in the chair, how do you feel?	2.3 (1.02)	2.17 (0.91)	0.142
3. When you are in the dentist's chair waiting while the dentist gets the drill ready to begin working on your teeth, how do you feel?	2.49 (1.07)	2.76 (1.08)	0.005
4. Imagine you are in the dentist's chair to have your teeth cleaned. While you are waiting and the dentist is getting out the instruments which will be used to scrape your teeth around the gums, how do you feel?	2.40 (1.16)	2.55 (1.2)	0.159
Total score	9.98 (3.21)	10.47 (3.01)	0.085

* Each DAS-R question has five multiple choices, ranging from most relaxed coded as 1, to most anxious coded as 5.

gender. The percent agreement between high to severe anxiety scores on DAS-R, and being quite to very afraid on DAQ for both genders was 80.72; the Kappa coefficient was 0.49. High to severe anxiety on Dental Anxiety Scale-Revised was reported by 60 (21.6%) males and 54 (24%) of females. Seventy-five (27%) males and 62 (27.6%) females reported being quite afraid to very afraid on Dental Anxiety Question.

Dental anxiety impacts oral disease burden and oral health seeking behaviour. This is the first study of dental anxiety in Pakistan, and since the respondents were university students with higher educational status than the general population in the country; results by necessity can not be generalized and comparison with general adult populations from other countries would by necessity be limited. These results are comparable to the Dutch study, but are lower than 32% reported in the Jordanian university students.^{3,4} On DAS-R the only item found to be statistically significant between the two

genders was for waiting in the dentist's chair, while the dentist gets the drill to begin working; with female students being more anxious. Interestingly mean score of male students for question on waiting in the dentist's office for one's turn was higher than females; however, this was not statistically significant. Female students had higher total mean scores on DAS-R, but it was not statistically significant. Proportion of students reporting being quite afraid to very afraid on DAQ was almost the same in both genders. No significant association was observed between anxiety scores and having seen a dentist in the past twelve months. Although percentage agreement was quite high between the two scales in terms of moderate to severe anxiety, the kappa coefficient i.e. a measure of inter-rater reliability was moderate. Several studies have reported higher and statistically significant dental anxiety among females; however, the clinical significance of this gender difference has been questioned.^{3,4}

The objective of this preliminary study was to determine the prevalence of dental anxiety in Pakistan. Factors that could potentially impact dental anxiety, such as oral health education, dental experience of parents, past experiences with dentists, and relation with anxiety and poor oral health status in the respondents, were not explored. There is a need for better understanding of factors affecting dental anxiety in future studies incorporating these additional factors. Oral health seeking behavior is compromised by dental anxiety, and affects quality of life. These results underscore the need for population-based studies to determine the prevalence and correlates of dental anxiety, for better dental health in Pakistan.

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