



ORIGINAL ARTICLE

A cross sectional study of gender differences in dental anxiety prevailing in the students of a Pakistani dental college



Imran Farooq ^{a,*}, Saqib Ali ^{b,1}

^a Department of Biomedical Dental Sciences, College of Dentistry, University of Dammam, Dammam, Saudi Arabia

^b Department of Oral Biology, Sardar Begum Dental College, Peshawar, Pakistan

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KEYWORDS

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Abstract Objective: The purpose of this cross sectional study was to assess the level of dental anxiety prevailing in the dental students and to compare the anxiety levels reported by female and male dental students of Sardar Begum Dental College, Peshawar, Pakistan.

Methods: Corah's dental anxiety scale (DAS) questionnaires (in English language) were distributed among the entire dental students present at the day of study (194 students, females: 120, males: 74). DAS had four questions assessing the level of anxiousness with a maximum possible achievable score of 20. Five options were available for each question. Scoring was performed as $A = 1$, $B = 2$, $C = 3$, $D = 4$ and $E = 5$. A score between 4 and 8 showed no anxiety, 9 and 12: moderate anxiety, 13 and 14: high anxiety and between 15 and 20 showed severe anxiety (phobia). Data were analyzed statistically.

Results: Overall response rate was 86% ($n = 167$, females: 108, males: 59). Female dental students presented with higher DAS than male students and the difference was also statistically significant ($P < 0.05$). Pre-clinical students (1st–2nd year) were found to be more anxious than clinical students (3rd–4th year).

Conclusions: Female dental students and pre-clinical students were found more anxious as compared to male dental students and clinical students respectively. Counseling sessions and exposure therapy (exposure of clinical procedures in this case) at an early stage of dental training could be helpful in reducing the anxiety levels.

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* Corresponding author. Tel.: +966 3 8574928x113.

E-mail address: drimranfarooq@gmail.com (I. Farooq).

¹ Present address: Department of Oral Biology, Khyber College of Dentistry, Peshawar, Pakistan.

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1. Introduction

Dental anxiety is a major hurdle when it comes to seeking early advice regarding oral and dental problems.¹ It is a common observation that anxious patients defer their visit to dental practices till the time it becomes absolutely necessary to obtain dental treatment.² Therefore anxious patients suffer from

inferior oral health as compared to non-anxious patients.³ Avoidance of dental treatment due to dental anxiety not only situates the oral health of a patient at risk but also poses a severe threat to his/her general health and the patient can suffer from a number of serious medical conditions like septicaemia, sepsis, sinusitis and osteomyelitis of the face.⁴

A number of studies have now been performed throughout the world after appreciating the correlation between dental anxiety and poor oral health.⁵⁻⁷ A variety of scales have been utilized to assess the level of dental anxiety in a particular population and Corah's dental anxiety scale (DAS) which was developed in 1969⁸ has been most widely used.

Dental students constitute a major segment of health care providers all over the world. It has been reported earlier that patients feel much calmer when the dentist treats them with confidence.⁹ Therefore, it becomes necessary for a dental student to learn about the techniques which can help their patients to overcome their respective dental anxiousness.¹⁰

Although dental anxiety has been ranked fifth when it comes to commonly feared conditions,¹¹ there are very little data present in the literature highlighting dental anxiety level of dental students in Pakistan. Hence this cross sectional study was performed to assess the level of dental anxiety existing in the students of Sardar Begum Dental College, Peshawar, Pakistan and to compare the anxiety levels existing between female and male dental students.

2. Methods

The study was designed with the principles of Helsinki Declaration and was approved by the Ethics Committee of Sardar Begum Dental College and all the ethical protocols were strictly followed during the study. An informed consent was taken from all the respondents before participating in the study.

Corah's dental anxiety scale (DAS) was utilized for this study. DAS consists of four items related to different situations that can be encountered at a dental clinic. These items assessed various levels of anxiousness. Five answers were available for each question. 1 point was given when the respondent answered 'A' for a question, 2 for 'B', 3 for 'C', 4 for 'D' and 5 points were given for option 'E'. Option 'A' indicated the least level of anxiousness whereas option 'E' represented the maximum level of anxiousness. Maximum possible achievable score was 20. Anxiety scoring from DAS is categorized as: 4-8: not anxious, 9-12: moderately anxious, 13-14: highly anxious, 15-20: severely anxious (Table 1).

DAS questionnaire was pre-piloted with some students who have cleared their final examination recently and these students were not included in the study later on. After confirming the viability and practicability, the study was carried out. DAS questionnaire (in English language) was distributed among all the dental students at the end of their respective lectures on the day of study (194 students, females: 120, males: 74). Participation in the study was on voluntary basis. The purpose of the study was explained to the students and their queries were answered. Questionnaires were answered anonymously by students and no personal information except their age and gender was obtained. No attempt was made to obtain the responses of the students who were absent on the day of study.

2.1. Statistical analysis

Data were obtained and entered into spread sheets. SPSS software (version 19.0; SPSS Inc., Chicago, IL, USA) was utilized for statistical analysis. Z-test (parametric) was used to analyze the significance of difference between the anxiety scores of male and female dental students and the data were tested for normality prior to applying Z-test. *P*-values < 0.05 were considered statistically significant.

3. Results

Out of 194 students present on the day of study, 167 (females = 108, males = 59) returned the questionnaire with an overall response rate of 86% (individual response rate; females: 90%, males: 80%). Overall mean DAS for female and male dental students was 13.1 and 11.9, respectively and the difference between the scores was also statistically significant (*P* value < 0.05) (Table 2).

Individual dental anxiety level scores distributed year wise are summarized in (Table 3).

From Table 3, it can be observed that on basis of year wise distribution, higher dental anxiety level scores were recorded among female dental students as compared to male dental students and among pre-clinical students than clinical students. Female students were also younger in each year of study as compared to their male counterparts.

Out of 167 respondents (females = 108, males = 59), 18 (females = 16, males = 2) were found to be severely anxious (Fig. 1).

4. Discussion

It has been previously reported by Horst and Wit that females are more dentally fearful than males.¹² This was found to be true in our study with higher DAS score of 13.1 for female dental students compared to 11.9 for male dental students. It has been reported earlier that females are more responsive to a particular stimulus (like fear of the needle) than males¹³ which could be the reason for higher anxiety levels reported by females. Another reason for this trend could be that males tend to hide their fears due to their conventional gender role which has been reported earlier by Pierce and Kirkpatrick.¹⁴ But the most appropriate reason for this could be attributed to neuroticism which is governed by the characteristics of being anxious, angry, and jealous and which has been reported higher in females by several studies.^{15,16} Various studies have reported that more females tend to choose dentistry as a career than males^{17,18} and a similar situation is found in Pakistan as well. This was the reason for high response rate reported by females in this study and this trend could have well influenced the results. Another element that must be taken into account when assuming that females are more dentally anxious is the conventional role of males in most of the societies due to which they avoid revealing their complete feelings while females describe their anxieties completely.¹⁹

It can be observed that senior students had less mean DAS which could be owed to their increased level of dental education and clinical experience and the results of this study agree with the results of Kirova²⁰ who also found that dental

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