ORIGINAL ARTICLE

Dental Anxiety in Patients in Lahore Medical and Dental College: A Cross Sectional Study

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ABSTRACT

Objective: To assess the prevalence and level of dental anxiety in patients reporting to the Outpatient Department in Lahore Medical and Dental College.

Study Design: A Cross Sectional Comparative Study.

Place and Duration of Study: The Outpatient Department of Lahore Medical and Dental College during the months of August and September 2019.

Materials and Methods: A total of 300 patients were assessed for dental anxiety utilizing Corah's Dental Anxiety Scale. The qualitative variables were described as frequencies and percentages and the quantitative variables were expressed as mean ± standard deviation. Data was subjected to descriptive statistical analysis and significance testing between the variables was done using Independent samples ∓ t test and Analysis of variance (Anova). Level of significance was set at 0.05.

Results: Dental anxiety was prevalent in 29.7% patients, mostly children with a mean dental anxiety score of 7.23 (±3.78). The incidence of dental anxiety among the patients was 70.3% non-anxious, 15.3 % moderate anxiety, 6.7 % high anxiety and 7.7 % severe anxiety. Females recorded a higher mean Dental Anxiety Score, 7.89 (±4.07) as compared to males 6.44 (±3.39). There was a highly significant (p<0.05) difference in Dental Anxiety scores based on age, gender, and past dental experiences.

Conclusion: The Dental anxiety levels reported in the study population were low and the high level of anxiety was seen mostly in children. This highlights the importance of developing a comfortable dentist-patient relationship to help anxious patients and support them during the course of the treatment.

Key Words: Corahs Dental Anxiety Scale, Dental Anxiety, Dental Fear, Dental Survey, Past Dental Experience.

Introduction

Dental anxiety refers to a state of fear in regard to something bad happening during dental treatment, whereas dental fear is the normal response to a particular threatening stimulus in a dental setting.[1] Dental Anxiety (DA) is considered a major factor which results in patients avoiding treatment ultimately leading to an increase in the severity of the disease.[2] Such patients may be more uncooperative during the visit and may respond to pain stimuli differently.[3]

It is imperative for dentists to address dental anxiety in patients so that they can develop empathy for them and make a treatment plan specifically for such patients.[4] According to epidemiological data, between 3% and 20% people worldwide suffer from dental anxiety which is a cause for concern.[5] Around 10-20% of the population in the United States suffers from dental anxiety.[1] Dental anxiety has also been linked to deteriorating oral health and lack of timely treatment.[5] It has been found that people suffering from dental anxiety have more decayed or missing teeth as compared to those in non-anxious patients.[2] Although advancements in dental technology have been made but no change in dental scores has been observed over the years.[1]

Previously, limited studies have been done on the prevalence of dental anxiety in patients in Pakistan and there was a need for a study in our population.[3,6] The objective was to relate dental anxiety scores with age, gender and past dental experiences. This could help dentists in anticipating the responses of their patients when they report to the clinic. The Corah's Dental Anxiety Scale (DAS) was used to create a 20-point questionnaire. DAS is the most

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commonly and widely used scale for measuring dental anxiety.[7] If the level of anxiety experienced by patients is known, then the dentist can be better prepared to deal with such patients. The aim of our study was to determine the prevalence and level of dental anxiety in patients reporting to the Outpatient Department (OPD) in Lahore Medical and Dental College.

Materials and Methods

This cross-sectional comparative study was done at Lahore Medical and Dental College (LMDC), Lahore, Pakistan starting from 1st August to 30th September 2019. A formal permission was obtained from the Ethical Review Board of the college to conduct the study. All consecutive patients who came for treatment in the OPD of the college were enrolled in the study. The patients were asked to fill a questionnaire. Those patients who refused to participate were excluded from the study. Informed consent as a standard procedure was taken and confidentiality and anonymity of their responses was ensured. The study sample consisted of 300 patients. The sample population comprised of non-probability convenience sampling. All the patients belonged to a low socioeconomic background. The data was collected using the following method.

A questionnaire was prepared to measure the level of anxiety of the patients before a dental visit. A bilingual translator translated the questionnaire into Urdu language. The first part of the questionnaire consisted of questions regarding age, gender, and previous dental experience. The second part consisted of questions based on Corah's Dental Anxiety Scale. This is a 20-point scale where each response is given a set score. It is based on 4 questions each having 5 options. Each question may have a total maximum score of 20 or a minimum score of 4. This is calculated as a sum of all the scores of the five multiple choice items. A score of 9-12 was considered moderate anxiety, 13-14 was high anxiety, 15-20 as severe anxiety or phobia. 4 was the lowest score indicating no anxiety.

The data was collected, and Statistical Package for Social Sciences (SPSS) version 21.0 was used to do the statistical analysis. The qualitative variables were described as frequencies and percentages. Data was subjected to descriptive statistical analysis and presented as mean ± standard deviation. The

Independent student T test was used to compare the mean DAS score in both the genders and groups with previous dental experiences. Analysis of variance (Anova) and post hoc analysis was done to compare the DAS scores in the different age groups. Level of significance was set at 0.05.

Results

A total of 300 (170 females and 130 males) patients were involved in the study out of which 56.7% were females and 43.3% were males. The ages of the patients ranged from 4 years to 73 years with a mean age of 28.2 (±12.27). The total number of patients in each group and mean ±standard deviation (SD) of age, gender, previous dental experience, and dental anxiety scale are given in Table I. Each variable with its statistical significance to dental anxiety is also given in Table I.

Table I: Bivariate Relationship Between Dental Anxiety and Sociodemographic Variables

Variables		n	DAS score (Mean±Standard deviation)	Significance
Age	≤ 10 years	23	12.47 ±3.85	
	11-20 years	51	9.25 ±4.64	
	21-30 years	110	6.50 ±3.14	p<0.001
	31-40 years	83	6.14 ±2.83	
	41-50 years	23	6.34 ± 3.03	
	≥ 51 years	10	5.00 ±2.00	
Gender	Female	170	7.89 ±4.07	0.001
	Male	130	6.44 ±3.39	
Previous Dental Experience	Pleasant	258	6.46 ±3.24	p<0.001
	Unpleasant	42	12.16 ±3.77	

The prevalence of dental anxiety among the patients was 70.3% non-anxious, 15.3 % moderate anxiety, 6.7 % high anxiety and 7.7 % severe anxiety. Females recorded a higher Dental Anxiety Score (DAS) 7.89 (±4.07) as compared to males 6.44 (±3.39). The bar chart in Figure 1 shows the dental anxiety level for each of the items of the questionnaire. There was a highly significant (p<0.05) difference in DAS scores based on age, gender, and past dental experiences.

Discussion

This cross-sectional study was done to find the prevalence and dental anxiety levels in patients reporting to the OPD of Lahore Medical and Dental College, Lahore. The prevalence of dental anxiety was found to be 29.7% with a mean dental anxiety score of 7.23 (±3.78). Around 70.3% population was classified as non-anxious. Association of demographic variables with dental anxiety were
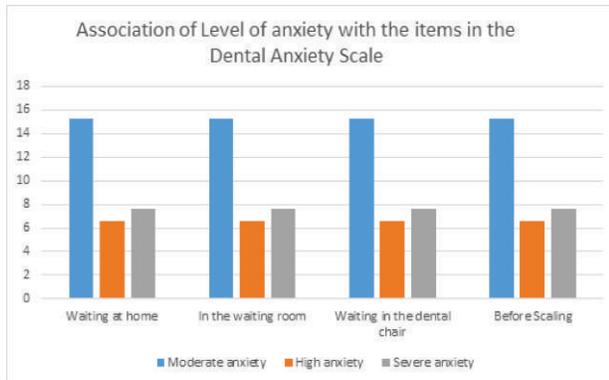
Fig 1: Association of Level of Anxiety with the Items in the Dental Anxiety Scale

identified using bivariate analysis.

These findings are comparable to other studies done for the same region like Shimla, India where incidence of dental anxiety was found to be 29.2% and mean dental anxiety score was 9.22 (±4.5).[8] Similarly in an Australian population, the DAS score recorded was 9.04 (± 3.45).[9] In a Nigerian study the dental anxiety score was similar to our study, 7.33 (± 3.20) and 92.5% of the population was found to be non-anxious.[10] An Iranian study showed higher DAS score, 12.34 (±4.74) where prevalence of dental anxiety was 58.8%.[2] In a similar study done in a teaching hospital in Karachi, the mean DAS score recorded was much lower, 2.73.[5]

There was a highly significant difference (p ≤ 0.05) between the anxiety levels based on age, gender, and past dental experiences. Females had a higher dental anxiety score than males (7.89 and 6.44 respectively) and similar association has been extensively documented in other studies too.[2,5,9,12] It was found that younger female patients with past unpleasant experiences had a greater chance of developing anxiety before a dental procedure.[13] There are multiple reasons reported for this difference mainly because of a difference in the genetic makeup as females have a more developed fight and flight response due to presence of progesterone and estrogen.[5] In addition females may also find it easier to express their emotions and fears openly.[14]

It has been reported that as the age of the patient becomes more, the anxiety experienced by them before dental treatment also becomes less.[14] The reason could be a level of maturity that comes with age and the result of forming a good rapport with the dentist over time that ensures more confidence. This

was also true for our study as higher DAS score (12.47 ±3.85) was seen in children as compared to adults' ≥ 51 years of age (5.00 ±2.00) (p<0.001). It has been extensively documented that children have more anxiety before a dental procedure and higher DAS scores have been reported in many studies. [15,17] In a study in Iran, no difference in DAS score based on age was found.[2] In an Australian study, highest DAS score was found in the 35-44 years age group.[9] This anxiety could be due to diverse factors like the sociocultural background, child's age, personality and nature of the parent's dental experiences.[16] Anxiety in young children can lead to an increased incidence of decayed teeth and more oral health related problems in life.[18]

Our study also showed that there was a highly significant association between DAS scores and past unpleasant experiences of the patients. Higher DAS score was observed in patients previously having a bad experience with the dentist (12.16 ±3.77) than the other group (6.46   ±3.24). This trend is expected and underlines the importance of a healthy patient and dentist relationship. The dentist's positive attitude and reassurance can make a patient feel safe and secure. Similar findings have also been highlighted in a study in Iran, where a statistically significant association was seen between the two variables thus further highlighting the role of the dental care givers in reassuring the patient.[2]

Limitations of our study were due to the small sample size confined to one hospital only where patients belonging to a low socioeconomic and educational background reported. It was felt by the authors that the avoidance of dental treatment despite low DAS score was due to low dental awareness rather than anxiety. However, further data is needed from diverse populations and people from all kinds of backgrounds to fully understand the factors responsible for dental anxiety and fear.

Conclusion

It is concluded that most patients are non-anxious and the high level of anxiety that is seen is mostly in children. Dental anxiety is prevalent in a small percentage of people and dental anxiety scores recorded are low. Female patients are more anxious and those patients with previous unpleasant dental experiences have higher levels of anxiety. This highlights the importance of developing a

comfortable dentist-patient relationship in order to help anxious patients and support them during the course of the treatment. Adequate measures must be taken to help children overcome their fear and anxiety so that they are not scarred for life.

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