

ORIGINAL ARTICLE

FREQUENCY OF DENTAL ANXIETY AMONG CHILDREN AGED 5–12 YEARS VISITING A DENTAL TEACHING HOSPITALS IN KOHAT, PAKISTAN**Arifullah Khan, Umar Nasir*, Aasim Masood, Zeeshan Sadiq**, Zaheer Babar, Ishfaq Ahmad**

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Background: Dental anxiety in children is recognized as a public health problem in many countries. Anxiety among dental patients directly affects their oral hygiene. The objective of this study was to evaluate the level of anxiety among children 5–12 years of age visiting dental hospital in Kohat city of Pakistan. **Methods:** This descriptive cross-sectional study was conducted on 400 children attending the dental teaching hospital in Kohat, Pakistan. ‘Modified Child Dental Anxiety Scale’ (MCDASf) was used to assess the level of anxiety in children. **Results:** Out of 400 participants, only 60 (15%) children were non-anxious, 119 (29.7%) were mildly anxious, 89 (22.2%) were moderately anxious while majority of the patients (132, 33%) were severely anxious. Statistically significant differences were observed between the level of anxiety and different age groups ($p < 0.01$). As the age increased the mean dental anxiety score decreased from 20.70 in the age group 5–8 years to 16.35 in age group 9–12 years. **Conclusion:** Our study confirms age differences in dental anxiety and found to be lower in older age group. Strategies like recognizing the symptoms before starting any dental treatment and managing it with counselling and other therapies would have effect in reducing anxiety in younger age group.

Keywords: Dental anxiety, Dental fear, Dental treatment, Oral hygiene, MCDASf

Pak J Physiol 2021;17(4):39–41

INTRODUCTION

Dental anxiety is defined as ‘An abnormal fear of visiting the dentist for preventive care or therapy and unwarranted anxiety over dental procedures’. Dental anxiety in children is accepted as a public health problem in several nations.¹ All these features affect a child’s ability to deal with situation faced during the dental treatment.²

Anxiety from dental procedures is a common problem faced in dentistry that unfavourably affects the diagnosis as well as treatment.³ Dental anxiety refers to a state of worry that something unfriendly is going to happen regarding the dental treatment and it is attached with a sense of losing control. This nervousness may be more distinct in relation to situations or objects clearly visible (e.g., hand piece, dental syringes).⁴ Fear and anxiety associated with dental plan are one of the worries frequently faced by patients all over the world. Patients with dental anxiety usually have poor oral hygiene as they avoid their routine dental checkup.⁵ Dental anxieties are ranked fourth among common fears and ninth among severe fears.⁶ Studies have reported that poor oral hygiene and tooth loss are mutual in highly nervous patients compared to patients with low or no anxiety.⁷ The frequency of dental anxiety in children in northern Europe is between 3 and 21 percent, and is more common among girls.⁸

There is inadequate material available on the occurrence of dental anxiety among children in

Pakistan. A study was carried out in university students which show that around 23% of the adult population has high dental anxiety.⁷ Another study carried out in Islamabad on similar age children where moderate and severe dental anxiety was seen in 38% cases.⁹

The purpose of this study was to evaluate the frequency of dental anxiety in children aged 5–12 years on visiting dental hospital in Kohat city, Pakistan.

MATERIAL AND METHODS

A total of 400 patients participated in our study. The sample size was calculated by using Epi-info sample size calculator with required ‘Precision level’ of 5%, ‘Confidence level’ of 95% and an estimated frequency of dental anxiety in children as 38%.

A questionnaire-based cross-sectional study was conducted in Khyber Medical University-Institute of Dental Science (KMU-IDS) from October 2020 to January 2021. Participants were selected by a non-probability consecutive sampling technique. The age of the participants in the study was between 5 and 12 years. They were accompanied by their parents/guardians on visiting the hospital. Data was collected after informed consent from their parents and assent from the children. Children with known mental disorders and those who were not able to communicate were excluded from the study. The study population was divided into two groups based on age, i.e., 5–8 years and 8–12 years.

Ethical approval for the study was obtained from the Institutional Review Board (IRB), Khyber Medical University-Institute of Dental Science/Institute of Medical Science (Ref No. ERC/KIMS/2020/04). Written consent was obtained from all parents/guardian of the students who fulfilled the eligibility criteria.

The questionnaire used for the study was ‘Modified Child Dental Anxiety Scale’ (MCDASf).¹⁰ It consisted of socio-demographic data with Corah’s six items guide to measure the dental anxiety in children. Each item is five points Likert scale used to measure dental anxiety with score ranging from ‘no problem’ to ‘very worried’. Total score on a scale ranged from 6 to 30. Dental anxiety was categorized on scores into ‘No Anxiety’ (6), ‘Mild’ (7–14), ‘Moderate’ (15–22) and ‘Severe’ (≥ 23).

Data was entered and analysed using SPSS-22. Descriptive statistics were run to calculate mean and standard deviation for age and dental anxiety score. Independent sample *t*-test was used to measure the association of dental anxiety in different gender and age groups.

RESULTS

Data from a total of 400 patients were collected in Dental Teaching Hospital in Kohat city. Among total, 217 (54.25%) patients were males and 183 (45.75%) were females. The mean age of the participants was recorded as 7.38 ± 1.68 years. Majority (55%) of the children were in the age group 5–8 years compared to 8–12 years (45%).

Majority of the patients (36.9%) showed severe anxiety when asked ‘How they would feel if their tooth had to be taken out’, followed by ‘Having a filling’ (29.56%), and ‘Having an injection in the gum’ (28.6%).

Out of 400 patients, only 60 (15%) children were non-anxious, 119 (29.7%) were mildly anxious, 89 (22.2%) were moderately anxious, while majority of the patients (132, 33%) were severely anxious (Table-1).

The mean dental anxiety score was 18.65 ± 6.61 . The differences in anxiety level were not statistically significant between males and females ($p > 0.05$). However, the differences were highly significant among age groups ($p < 0.01$). As the age increased the mean dental anxiety score decreased from 20.70 in the age group 5–8 years to 16.35 in age group 9–12 years (Table-2).

Table-1: Level of severity of anxiety

Severity of Anxiety	Number	Percentage
No Anxiety	60	15.0
Mild Anxiety	119	29.7
Moderate Anxiety	89	22.2
Severe Anxiety	132	33.0

Table-2: Dental Anxiety Score by demographic characteristics (Mean \pm SD)

Characteristics	n	Dental Anxiety Score	<i>p</i>
Gender			
Male	217	18.40 \pm 6.87	>0.05
Female	183	18.90 \pm 6.35	
Age group			
5–8 years	220	20.70 \pm 5.88	<0.01*
8–12 years	180	16.35 \pm 6.25	
Total	400	18.65 \pm 6.61	

*Significant

DISCUSSION

Studies have reported that people having dental anxiety or fear dodge dental treatment and therefore live with oral health-related problems.³ Dental anxiety remains an important issue for patients as well as dental clinicians despite modernization in pain management and dental techniques.⁶ A recent study has associated dental anxiety with poor oral hygiene as well as poor oral health habits like unhealthy diet, less frequent tooth brushing and smoking which increase the need for involvements.⁹

One study from Islamabad⁹ reported the prevalence of moderate and severe dental anxiety among children to be 38%. Another study from Peshawar¹¹ reported moderate and severe dental anxiety among children to be 68%. In our study 55.2% of the patients were moderately and severely anxious.

When compared with the other countries, the dental anxiety in children of Kohat was higher than those of Netherlands (6%)¹⁰, Sweden (6.7%)¹² and Danish children (5.7%)¹³. Studies have suggested that there is a counter relationship between levels of dental anxiety and age.^{14,15} In the current study dental anxiety was higher in the younger age groups. Older age groups reported lower mean MDAS score steady with previous work^{10,11} which has reported an increase in anxiety score in the younger age group. This may be due to patience developed eventually by increased contacts and thus have less anxiety as they grow up.¹⁶ In our study MDAS was not statistically significant with gender, which is not in accordance with other studies showing females had a higher mean MDAS score compared to male children.¹⁷ It may be due to the culture of telling our young boys not to be afraid or cry like girls, and resultantly they hide their fear and anxiety.

CONCLUSION

Our study confirms age differences in dental anxiety and found to be lower in older age group. Strategies like recognizing the symptoms before starting any dental treatment and managing it with counselling and other therapies would have effect in reducing anxiety in younger age group. Social awareness programs related to oral health may be valuable in dropping dental anxiety.

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Received: 8 Dec 2020

Reviewed: 31 Oct 2021

Accepted: 31 Oct 2021

Contribution of Authors:

AK: Concept of Idea, data collection and analysis

UN: Drafting, proofreading, content overview

AM: Analysis, final proofreading

ZS: Data collection

ZB: Data collection

IA: Data collection

Conflict of interest: None

Funding: None