

Anxiety Among Children 5-10 Years of Age Visiting Dental Teaching Hospitals in Peshawar City

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ABSTRACT

Background: Dental fear in young children is recognized as a public health problem in many countries. Anxiety among dental patients directly affects their oral hygiene.

Objective: To evaluate the level of anxiety among children 5-10 years of age visiting major dental teaching hospitals in Peshawar city of Khyber Pakhtunkhwa.

Material and Methods: A descriptive cross sectional study was conducted on 300 children attending three major dental teaching hospitals in Peshawar city Pakistan. MCDASf scale was used to assess the level of Anxiety in children.

Results: Out of 300 children, only 10 (3.3%) children were non-anxious, 86 (28.7%) were mildly anxious, 99 (33%) were moderately anxious while majority of the patients 105 (35%) were severely anxious. A statistically significant difference was observed between the level of anxiety and different age group ($p < 0.01$), as the age increases the mean dental anxiety score decreases from 20.49 in the age group 5-7 years to 15.85 in age group 8-10 years.

Conclusion: Our study confirms age difference in dental anxiety and found to be lower in older age group. Strategies like recognizing the symptoms before starting any treatment and managing it with counseling and other therapies would have impact in reducing anxiety in younger age group.

Key words: Children, Dental Anxiety, Dental fear, Dental treatment, Oral hygiene

This article may be cited as: Rehman A, Khan A, Din UI, Saffiullah, Irfan A, Zarif J.

Anxiety among Children 5-10 Years of Age Visiting Dental Teaching Hospitals in Peshawar City. J Saidu Med Coll Swat. 2019;9(2):243-6.

INTRODUCTION

Dental fear in children is recognized as a major community/public health problem in many countries. Children comprise a group of individuals who represent a wide difference in capability, puberty, character, nature, age and feelings, experience, family history, oral health and society etc.¹ Dental anxiety is defined as "An abnormal fear of visiting the dentist for preventive-care or treatment and unwarranted anxiety over dental procedures or measures". All these aspects effect a child's ability to deal with the oral care treatment".² Some children are strong, tough and forbearing of demanding condition and are unlikely to cause issues for the dentist, while others are unsafe and may need more heed and time to feel comfortable to cooperate with the dental treatment required.³

Anxiety associated with dental treatment is a common issue in dental practices, which negatively affect the diagnosis and treatment. This problem is aggravated to situations or objects clearly visible (e.g. drilling, injections).⁴ Dental treatment fear and anxiety is one of the problems frequently faced by patients all over the globe. Patients with dental anxiety usually avoid their

routine dental checkup eventually leading to poor oral hygiene.⁵ Anxiety related to dental care is placed fourth between common fears and ninth among severe fears and the intensity of dental anxiety directly affects the oral hygiene.⁶ Studies have reported that poor oral hygiene and tooth-loss secondary to dental caries are more common in patients with severe anxiety patients compared to low level or no anxiety.⁷ In Northern Europe, the prevalence of dental anxiety among children ranges from 3% and 21%.¹²

Limited data related to dental anxiety in children is available in Pakistan. The aim of this study is to evaluate the frequency of dental anxiety in children 5-10 years of age visiting dental hospital in Peshawar city, Pakistan.

MATERIAL AND METHODS

A descriptive cross-sectional study was conducted in three different major dental teaching hospital of Peshawar city i.e. Peshawar Dental College, Sardar Begum Dental College & Khyber College of Dentistry. Participants were selected by a non-probability consecutive sampling technique. Ethical approval for the study was taken from the Institutional Review Board (IRB) of Peshawar Medical College.

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Received: May 22nd, 2019, Accepted: January 6th, 2020

The participants of the study were aged ranged between 5 and 10 years accompanied by their parents who visited the hospital. Data were collected after getting informed consent from their parents. Children with mental disorders and those who were not able to speak properly were excluded from the study.

An eight item Likert scale "Modified Child Dental Anxiety Scale" (MCDASf) were used to measure the dental anxiety in children¹⁵. Total score on a scale range from 6 to 30. Dental anxiety was categorized in to mild (7-14), Moderate (15-22) and Severe (= 23).

A total number of 300 patients participated in our study. Epi info software was used to calculate the sample size with required CI: 95%, Precision: 5% and anticipated frequency of dental anxiety in children: 38%.¹⁶

Data were analyzed using Statistical Package for Social Sciences version 22. Descriptive statistics were run to compute mean and SD for age and dental anxiety score. Independent sample *t*-test was used to compare the difference dental anxiety score in different gender, age groups and location.

RESULTS

A total number of 300 participants data were

collected from three major dental hospitals in Peshawar city. Among total 147 (45.7%) patients were males and 153 (54.3%) were females. The mean age was recorded 7.38 years with a SD ± 1.68 years. Majority of the children were in the age-group 5-7 years (61%) compared to 8-10 years (39%).

Out of 300 patients, only 10 (3.3%) children were non-anxious, 86 (28.7%) were mildly anxious, 99 (33%) were moderately anxious while majority of the patients 105 (35%) were severely anxious [table: 1].

The mean dental anxiety score was recorded 18.68 with SD ± 6.75 . The anxiety level was not statistically significant ($P > 0.05$) between males and females group [Table 2]. However it was highly significant with different age group ($p < 0.01$), the mean score of dental anxiety decreases from 20.49 in the age group (5-7 years) to 15.85 in age group (8-10 years). Children from different dental hospital had no significant effect on dental anxiety score ($p > 0.05$)

Majority of the patients (46.6%) identified with severe level of anxiety when asked about their feelings if their tooth had to extracted" followed by "Having an injection in the gums" (35%) and "Having a filling" (32.6%).

Table 1: Anxiety severity

Anxiety Severity	<i>n</i>	Percentage
No Anxiety	10	3.30%
Mild Anxiety	86	28.7%
Moderate Anxiety	99	33.0%
Severe Anxiety	105	35.0%

Table 2: Dental Anxiety Score by demographic characteristics

Characteristics	<i>n</i>	Mean D ental Anxiety Score	Standard Deviation	P Value
Gender				
Male	147	18.76	6.97	> 0.05
Female	153	18.60	6.55	
Age group				
5-7 years	183	20.49	6.28	< 0.01***
8-10 years	117	15.85	6.50	
Hospital				
Private Sector	177	18.93	6.93	> 0.05
Public Sector	123	18.31	6.50	
Total	300	18.68		

DISCUSSION

Studies have reported that people with dental anxiety avoid dental care and hence leave their oral health problem to deteriorate^{3, 4}. A recent study has linked dental anxiety with poor oral health habits like unhealthy diet, less frequent tooth brushing and smoking which increase the need for interventions²⁴.

Dental anxiety remains an important issue for patients as well as dental clinicians despite of modernization in pain management and dental techniques.

Our study reported the frequency of moderate and severe dental anxiety among children to be 68%. It is considerably higher than the study done on a same topic in Islamabad city where moderate and severe dental anxiety was 38%¹⁶. When we compared our results with advanced countries, the anxiety related to dental treatment in this study remains greater than reported from Netherlands (6%)²², Sweden (6.7%)²¹ and Denmark (5.7%)²⁰.

Many studies have suggested that there is a correlation between dental anxiety and age of a patient^{25, 26}. In our study dental anxiety was found to be higher in the younger age groups. Older age groups reported lower mean MDAS score consistent with the research²⁵, which has reported an increase in anxiety score in the younger age group. This may be due to tolerance already developed overtime by increased exposures and therefore have less anxiety as they mature.

In our study the mean dental anxiety score was not statistically significant with gender, which is not in accordance with other studies showing females had a higher mean MDAS score compared to males^{27, 28}.

CONCLUSIONS

Our study reported a much higher dental anxiety among children compared to the rest of the countries highlighting a potential public health concern. This study also confirms age difference in dental anxiety and found to be lower in older age group.

Strategies like recognizing the symptoms before starting any treatment and managing it with counseling and other therapies would have impact in reducing anxiety in younger age group.

Awareness programs and campaigns related to oral health may be beneficial in decreasing dental anxiety in this part of the region. Further research

specially community/population based studies will have a great impact in getting a broad picture.

Limitations:

It was a hospital-based study, therefore it is advisable not to generalize our results with entire Pakistani population. We may have missed those patients not willing to attend hospital due to high level of anxiety and also the impact of hospital visit and dental treatment on dental anxiety may be higher compared to those not visiting hospital.

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