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## Anxiety in Children Visiting Dental Clinic in a Tertiary Care Hospital of Eastern Nepal

Kumar Abhishek

Research Scholar, Shri Jagdish Prasad Jhabarmal Tibrewala University, Rajasthan, India

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### \*For Correspondence:

Kumar Abhishek

Research Scholar, Shree JTT University,  
Jhunjhunu, Rajasthan, India.

([www.jpsbr.org](http://www.jpsbr.org))

### ABSTRACT:

The objectives of this study were to determine the perceived anxiety levels in children visiting dental OPD. Convenient sampling technique was used in children aged 8-12 years visiting the department of Pedodontics and preventive dentistry at BP Koirala Institute of Health Sciences, Dharan, Nepal. One hundred and twenty patients participated in the study. The total perceived levels of anxiety in children had a mean of 70.65, Standard error of mean= 1.142 and standard deviation=12.506. Cronbach's Alpha for domain showed high value of .857 which denotes reliability of the questionnaire used. There are no perceived differences in anxiety levels with respect to dental settings in patients visiting dental clinic.

**KEYWORDS:** Children's anxiety, children's anxiety rating scale, dental anxiety, dental fear.

### INTRODUCTION:

Medical procedures have been shown to cause stress, anxiety, and pain in children (Blount, Piira, & Cohen, 2003). In particular, dental procedures can be stressful experiences. Dental caries, tooth decay, predominantly affect children and adolescents (Blinkhorn, Kay, Atkinson, & Miller, 1990). Research indicates that 5-33% of children experience at least one toothache during childhood (Slade, 2001). The prevalence rate of toothaches is higher for older children and for children of lower socioeconomic status, though rates vary widely across countries (Slade). Dental pain affects children's school attendance, ability to eat, ability to sleep, and ability to play (Shepard, Nadanovsky, & Sheilham, 1999; Slade). In addition to the strong likelihood of youth experiencing dental pain, research has shown that 20% of children have dental fears and 21% engage in negative behaviors in a dental office (Baier, Milgrom, Russell, Mancl, & Yoshida, 2004).

Increased anxiety has been shown to increase perceived pain in children (Blount et al.). Further, dental anxiety can

be considered an important barrier to patients receiving the recommended dental care (Smith & Heaton, 2003); more specifically, dental anxiety in children is positively related to missed dental appointments (Wogelius & Poulsen, 2005). The dental field now accepts that the success of dental treatment is influenced by children's psychological processes (Blinkhorn et al., 1990).

For the purpose of this research, dental anxiety was evaluated using Spence Children Anxiety Scale (Spence, 1998), which is a forty six point questionnaire which evaluates symptoms relating to separation anxiety, social phobia, obsessive-compulsive disorder, panic-agoraphobia, generalized anxiety, and fears of physical injury. As number of studies indicate dental anxiety as a major barrier to dental treatment in children, further research in this area is required to find out the potential problems and to come out with a solution.

### METHODS

This was a cross sectional study. The study population was selected from children visiting OPD in Department of

Pedodontics & Preventive Dentistry, College of Dental Surgery, B.P Koirala Institute of Health Sciences, Dharan, Nepal. The patients were asked to complete the Spence children’s anxiety scale questionnaire (translated into Nepalese language). The study was carried in two parts – the first part comprised of data collection. A total of 120 children participated in the study after obtaining informed consent from the accompanying parent/guardian. The scale was completed by asking the child to read and follow the instructions on the printed form. The child was asked to rate on a 4-point scale: 'never', 'sometimes', 'often', or 'always' to indicate how often each of the items happens to them. There was no set time period over which the judgment had to be made. The response was made by circling the appropriate frequency word.

All the collected data was entered into Statistical Package for Social Sciences (SPSS, Version 16.0). Reliability and validity of the questionnaire was done using the Cronbach’s alpha. The data was analysed using Independent t-test and Mann-Whitney U test.

**RESULTS**

A total of 120 children participated in the study of which fifty five (45.8%) children were male and sixty five (54.2%) were female.

Out of 120 children who participated in the study, 55 (45.8%) belonged from rural population and 65 (54.2%) from urban population. The total perceived levels of anxiety in 120 children had a mean of 70.65, Standard error of mean= 1.142 and standard deviation=12.506.

**Table 1 depicts scores for domain.**

Sub-scale	Mean	Standard deviation
Separation anxiety	4.60	2.649
Social phobia	5.33	2.760
Obsessive compulsive	7.17	3.281
Panic/agoraphobia	4.22	3.900
Physical injury fears	3.68	2.661
Generalized anxiety	6.11	2.798

Cronbach's Alpha for domain also showed high value of .857 which denotes reliability of the questionnaire used.

**Cronbach’s Alpha**

**Table 2 Reliability Statistics for Domains and Total**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Alpha on N of Items
.770	.857	7

**Mann-Whitney Test**

**Table 3 Domain Distribution of Total Gender**

DOMAI N1	DOMAI N2	DOMAI N3	DOMAI N4	DOMAI N5	DOM AIN6
-1.143	-1.601	-2.989	-.464	-.579	-1.693

**Table 4 Domain distribution of resident**

DOMAIN 1	DOMAI N2	DOMAI N3	DOMAI N4	DOMAI N5	DO MAI N6
-1.861	-1.474	-.463	-2.275	-3.009	-.303

**T-Test**

**Table 5 Gender Distribution**

GENDER	N	Mean	Std. Deviation	Std. Error Mean
MALE	55	33.42	13.592	1.833
FEMALE	65	29.14	11.048	1.370

**Table 6 Resident Distribution**

RESIDENCE	N	Mean	Std. Deviation	Std. Error Mean
RURAL	55	33.65	12.025	1.621
URBAN	65	28.94	12.413	1.540

**DISCUSSION**

The most frequent disorders among children and adolescents are separation anxiety disorder with estimates of 2.8% and 8% (Bruce SE et al., 2005) (Angst J, Vollrath M, 1991) (Woodman CL et al., 1999) and specific and social phobias, with rates up to around 10% and 7%, respectively. In the current study, mean for separation anxiety was calculated to be 4.60, standard deviation= 2.649 which are in concurrence with the findings of above studies.

Internal consistency was examined using the total sample of 120 children. The analysis produced a co-efficient alpha of 0.857. The internal consistency of the subscales obtained with coefficient alphas of 0.698 (panic-agoraphobia); 0.565 (separation anxiety); 0.600 (social phobia); 0.600 (physical injury fears); 0.537 (obsessive-

compulsive) and 0.6985 (generalized anxiety). This finding was in concurrence with the study by S.H Spence where the obtained values for co-efficient alpha of 0.92 and the subscales with coefficient alphas of 0.82 (panic-agoraphobia); 0.70 (separation anxiety); 0.70 (social phobia); 0.60 (physical injury fears); 0.73 (obsessive-compulsive) and 0.73 (generalized anxiety). (S.H Spence, 1998)

Despite notable variation in prevalence estimates that is likely due to method variance, the lifetime prevalence of "any anxiety disorder" in studies with children or adolescents is about 15% to 20%. In particular, it is noteworthy that the period prevalence estimates, for example 1-year or 6-month rates, are not considerably lower than lifetime estimates. This fact indirectly indicates that anxiety disorders exhibit a persisting course or that high rates of forgetting occur for remitted disorders.

The most frequent disorders among children and adolescents are separation anxiety disorder with estimates of 2.8% and 8% (Bruce SE et al., 2005) (Angst J, Vollrath M, 1991) (Woodman CL et al., 1999) and specific and social phobias, with rates up to around 10% and 7%, respectively.

#### 1. Separation anxiety

The mean for separation anxiety of 120 children was calculated to be 4.60, standard deviation= 2.649.

#### 2. Social phobia

The mean for Social phobia of 120 children was calculated to be 5.33 and standard deviation= 2.760.

#### 3. Obsessive compulsive

The mean for Obsessive compulsive of 120 children was calculated to be 7.17 and standard deviation= 3.281.

#### 4. Panic/agoraphobia

The mean for Obsessive compulsive of 120 children was calculated to be 4.22 and standard deviation= 3.900.

#### 5. Physical injury fears

The mean for Physical injury fears of 120 children was calculated to be 3.68 and standard deviation= 2.661.

#### 6. Generalized anxiety

The mean for Generalized anxiety of 120 children was calculated to be 6.11 and standard deviation= 2.798.

## CONCLUSIONS

There are no perceived differences in anxiety levels with respect to dental settings in patients visiting dental clinic. The Nepalese version of Spence Children's Anxiety Scale (SCAS) is a valid instrument to measure anxiety in children visiting dental setup. A larger sample size is recommended to obtain more valid results for future studies.

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