



Prevalence of dental anxiety in 10-14 years old children and its implications

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Background: The aim of this study was to provide insight on dental fear amongst schoolchildren and evaluate the association between caries experience and fear of dental procedures.

Methods: A sample size of 250 students (both sexes) of ages 10-14 years were enrolled in the study. Before dental examination, each participant was informed about the study and given the Children's Fear Survey Schedule - Dental Subscale (CFSS-DS) questionnaire. Children who scored greater than 38 were included in the 'with dental fear' group and those who scored less than 38 were assigned to the 'without dental fear' group. All oral check-ups were carried out on the school premises according to WHO criteria.

Results: There were 105 children (42%) who experienced dental fear. As CFSS-DS scores increased, scores on the Decayed, Missing and Filled Surfaces Index (DMFS) also increased. Scores were highest on "injections" followed by "dentist drill" and "feeling of choking". Children were significantly less anxious about items of dental treatment if they had experienced that particular form of treatment. Female participants were found to be more dentally anxious than the male participants.

Conclusions: The data revealed dental fear in 10-14 years old children and showed that dental fear scores decreased with increase in age and experience.

Keywords: Dental anxiety; Dental Fear.

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INTRODUCTION

Dental fear is a pervasive problem and can lead to deliberate avoidance of dental treatment, thereby having an adverse effect on the patient's orofacial and psychological health. The term 'dental fear' can be defined as a specific anxiety that predisposes an individual to a negative or uncomfortable experience during

dental procedures. It may cause occasional and sometimes serious problems for both patient and dentist. There are varied and multiple causes of dental fear in children that can be correlated to personality, general fear, previous painful dental experiences, dental fear in parents, age, and gender. Boys and older children report being less fearful than do girls and younger children [1,2]. The aims of this study were to present insight on dental fear in schoolchildren and to evaluate the association between

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experience with caries and fear of dental procedures. There is an emerging consensus in the literature that three major quality of life aspects relate to oral health (OHRQoL): clinically assessed disease and impairment, ailment and management specific symptoms, and functional and psychological disability. Numerous subjective oral health indicators have been developed over the years, however, there is a lack of OHRQoL measures designed specifically for children, despite the fact that pediatric oral disorders are numerous and likely to have a negative impact on a child's quality of life. Few attempts have been made to assess the prevalence and determinants of OHRQoL, both generally and specific to dental pain in child populations of non-industrialized countries. In this study, dental pain is considered to be synonymous with toothache and is described as pain originating from innervated tissues within the tooth or immediately adjacent to it [3].

MATERIALS AND METHODS

We recruited all the schools in the North, South, East, and West regions of Belgaum city. Including east region with north region and south with West, two schools were randomly selected from both the regions. A sample size of 250 students (both male and female student) between the ages of 10-14 years were randomly selected.

Permission was received from the school authority prior to recruitment, the purpose of study was explained to both the school and the students, and written consent was taken. A close-ended English-language questionnaire was administered to the children. It contained personal information and questions that evaluated the influence of

anecdotes about bad childhood experiences during visits to a dentist.

The Children's Fear Survey Schedule – Dental Subscale (CFSS-DS) questionnaire is a renowned psychometric scale that was created in 1982 to evaluate dental fear in pediatric patients [4]. It has been shown to have good fidelity-validity, is currently used in several territories, and has been translated into many languages for use globally [5].

SURVEY INSTRUMENT

The CFSS-DS is composed of 15 items related to unique aspects of dental care. The scores are rated as follows:

- not afraid = 1
- little afraid = 2
- fairly afraid = 3
- quite afraid = 4
- very afraid = 5

Total scores ranged from 15 to 75 (Table 1). Children with CFSS-DS scores greater than or equal to 38 were defined as dentally anxious. Children with scores greater than 38 were assigned in the group 'with dental fear', while those who scored less than 38 were included in the 'without dental fear' group.

RESULTS

The number of children who experienced dental fear was 105 (42%). It was found that scores on the Decayed, Missing, and Filled Surface Index (DMFS) increased

Table 1. Number of children in each age group and Children's Fear Survey Schedule – Dental Subscale (CFSS-DS) scores.

Age (in years)	No. of children	%	CFSS-DS \geq 38	%
10	50	20	33	31.42
11	50	20	26	24.76
12	50	20	19	18.09
13	50	20	15	14.28
14	50	20	12	11.42
Total	250	100	105	100

Table 2. Relationship between dental anxiety and sex of the patient

Sex	Number (%)	Dental fear (%)
Male	125 (50)	42 (33.6)
Female	125 (50)	63 (50.4)
Total	250	105

directly with increasing CFSS-DS scores. Fear scores were highest for “injections” followed by “dentist drill” and “feeling of choking”. Children were significantly less anxious about specific items of dental treatment if they had experienced that particular form of treatment. Female participants were found to be more dentally anxious than male participants. Dental fear scores decreased with increasing age and experience. The relationship between dental anxiety and sex are depicted in Table 2.

DISCUSSION

Dental treatment has shown to induce and increase dental fear in children. In order to prevent this health-threatening anxiety, preferably by means of a suitable pediatric treatment, it is crucial to identify dentally anxious children at the earliest age possible. Of these fears, injections rank highest followed by dentist drills and the feeling of choking. People who are apprehensive about dental care often adopt a “cycle of avoidance” [6] in which they consciously avoid visits to the dentist until they face a dental emergency, which can further strengthen their fear of dentistry [7]. Approximately, 50% of individuals with extremely high dental fear report dental fear onset during childhood, 27% during adolescence, and 23% during adulthood. When extremely high dental fear is established, it can last a life time [8]. Dental phobia and dental anxiety are serious problems that negatively affect oral health in people of all ages. Early detection of the etiology of fear is the key to solve this problem. Furthermore, it has been shown that children who see dental anxiety in their parents or guardians are more likely to develop a similar attitude and ultimately face stressful experiences during dental visits in their youth [9].

Dental phobia in pediatric patients has been identified as a source of significant health problems. Moreover, it may persist into adolescence and lead to an avoidance of dental care or disruptive behavior during treatment [10,11]. In order to prevent this health-threatening behavior, preferably by means of a feasible pediatric treatment approach, it is crucial to identify dentally anxious child at the earliest age possible [10]. The aims of this study were to evaluate the level of dental fear amongst 10 to 14 year-old schoolchildren and assess the relationship of dental caries to dental fear. Previous dental fear studies conducted in preadolescent Turkish children showed oral health to be poor by self-assessment [12]. Using a cut-off of 63.8, the mean dental score of the CFSS-DS in our study (28.1) was analogous to the previous score of 30.6, in which the cut-off was 64.2 [13]. Studies on large scale and community-based programs conducted in educational institutions or hospitals often depend on questionnaire data to evaluate the frequency of dental anxiety. Educational institution-based samples provide the ease of quick data gathering, as pupils can be surveyed in groups. Additionally, a more effective depiction of children in that particular locale can happen (on account of even dental phobic are likely to be present there) [14]. Research on dental fear in children has been carried out in a number of nations. CFSS-DS scores in the current study resembled data (28.7) from a previous study in India [1], which was comparatively higher than scores from studies in Japan (24.6) [15], Sweden (23.1) [10] and the Netherlands (23.9) [16]; however, the mean CFSS-DS scores from this study were significantly lower than scores from studies in Singapore (30.6) [7], Canada (for Chinese children, 31.9) [5] and China (35.7) [5].

It is an undeniable that fear in dental field is progressing. To ease dental fear amongst children, special attention is required by means of clinical risk assessment, early diagnostic tests/methods, parental/guardian education, oral hygiene instruction, pit and fissure sealants, and periodic dental check-ups to prevent painful dental experiences and reduce the need for exhaustive dental

procedures during childhood [17].

In conclusion, the data showed that dental fear is prevalent amongst 10–14 years old children. Dental fear scores decreased with increasing age and experience.

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