

DENTAL ANXIETY AND BEHAVIORAL PROBLEMS: A STUDY OF PREVALENCE AND RELATED FACTORS AMONG A GROUP OF INDIAN CHILDREN AGED 6-12

Yashila Periasamy, Ganesh Jeevanandan, Dhanraj Ganapathy

Abstract

Children's dental anxiety is a natural developing feeling which is expected when meeting unfamiliar faces. Strange sounds and tastes, having to lie down and even pain. Dental fear is a normal emotional reaction to one or more specific threatening stimuli in the dental situation whereas dental anxiety denotes a state of apprehension that something dreadful is going to happen in relation to dental treatment. This cross-sectional investigation was approved and 100 children among 6-12 years old registered at the paediatric clinic of Saveetha Dental College and Hospitals, in 2019. Children who did not need to undergo dental procedure using the local anaesthesia and children with systemic disease, psychological disorder, and developmental problems were not included into this study. The parents from this study had diploma and higher educational level as well. Prior dental visit, at the waiting room, the parents were asked to answer a questionnaire. The questionnaire had two sections; first section of the questionnaire gathered information about the parents' background and the second section of the questionnaire had a Corah dental anxiety scale (CDAS). Descriptive statistics were produced and data analysis was performed. A total number of 100 children, 60 boys and 40 girls were participated in this study. Most of the children were 6-7 years old (40.67%). The mean scores of the child's dental anxiety and cooperative behaviour during the local anesthesia injection were 20.81 and 3.04, respectively. High prevalence of severe dental anxiety may be seen in early years of school. It seems that general factors such as family factors have less impact on behavior of school aged children in a dental visit.

KEYWORDS: Children, anxiety, fear, dental

I. INTRODUCTION :

Children's dental anxiety is a natural developing feeling which is expected when meeting unfamiliar faces. Strange sounds and tastes, having to lie down and even pain. (1) Dental fear is a normal emotional reaction to one or more specific threatening stimuli in the dental situation whereas dental anxiety denotes a state of apprehension that something dreadful is going to happen in relation to dental treatment. A review study has found that positive behaviour increased between ages 3 and 6 but there were also studies showing can increase in dental anxiety with age.

*Undergraduate student, Department of Prosthodontics, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Chennai.
Reader, Department of Paedodontics, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Chennai. Professor & Head, Department of Prosthodontics, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Chennai. Corresponding Author:
Dhanraj Ganapathy
Professor & Head, Department of Prosthodontics, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Chennai.*

After 6 years of age, children acquire abilities in adjustments, independence and self-control but the fear of and anxiety towards going to dentists are major problems for a sizeable proportion of children and adolescents. Children with dental fear may try every possible means to avoid or delay treatment, resulting in deterioration of their oral health. Dental anxiety also has its impacts on sleep disorders, affects one's daily life and have a negative impact on one's psychosocial functioning.

Surveys from different part of the world show that prevalence of dental anxiety in children and teenagers differ from 5% to nearly 20%. The aim of this study was to assess the prevalence of dental anxiety and behavioural problems and to investigate some associated demographic and dental background variables in a group of Indian school-going children.

Subjects and Methods:

This cross-sectional investigation was approved and 100 children among 6-12 years old registered at the paediatric clinic of Saveetha Dental College and Hospitals, in 2019. Children who did not need to undergo dental procedure using the local anaesthesia and children with systemic disease, psychological disorder, and developmental problems were not included into this study. The parents from this study had diploma and higher educational level as well. Prior dental visit, at the waiting room, the parents were asked to answer a questionnaire. The questionnaire had two sections; first section of the questionnaire gathered information about the parents' background and the second section of the questionnaire had a Corah dental anxiety scale (CDAS). Descriptive statistics were produced and data analysis was performed. Analysis of variance and linear regression models were used for the statistical analysis.

II. RESULTS:

A total number of 100 children, 60 boys and 40 girls were participated in this study. Most of the children were 6-7 years old (40.67%) [Table 1]. The mean scores of the child's dental anxiety and cooperative behaviour during the local anaesthesia injection were 20.81 and 3.04, respectively [Table 2]. According to the self-report measurement of anxiety (MCDAS), 44 children (29.3%) had severe dental anxiety and a high prevalence of severe dental anxiety was observed among children 6-7 years. The scores for each eight items of MCDAS showed "injections" had the highest rank with the 47% of the children answering "score 5." The items scoring next highest were "dental extraction" and "visiting the strangers," 46% and 27%, respectively. Results of simple regression analysis for the child's dental anxiety have been shown in Table 3.

III. Discussion

Dental anxiety is one of the reasons why children avoid going to the dentist or express behavioural problems during a dental visit. If the child behaviour problems are duo to general behavior and personality or related to fear of dental environment is an important issue in pediatric dentistry. There is a thin line in diagnosing between these two conditions.[1] A set of potential factors causes dental anxiety and behavioural problems. One of the most important factors in dental anxiety is the child's age. In children 3-6 years old, dental anxiety is as part of general anxiety.[2] When the child's age increases, changes in cognitive and socio-emotional characteristics, responsibilities, assimilating real, and self-control are acquired. Fear of separation from the parents, fear of strange situations and person, fear of bodily harm and general anxiety are reduced.[5] These abilities prepare the 6 years old children to enter the social environment such as school. It is expected that children older than 6 show little behavioral management problems in a dental visit. Our results showed that there is a high level of dental anxiety and behavior problems in school aged children. The prevalence of severe dental anxiety in children was 29.3% that is much higher than the findings in the same age children in Sweden (2.6%);[9] and Denmark (5.7%),[5] but is corresponded to the results obtained in Taiwanese children (28.3%)[18] and children from lower socio-economic families in Norway (19.5%).[10]. Comparison between age groups showed that the prevalence of severe dental anxiety in 6-7 years old children is higher than other age groups. High level of anxiety in early years of school has been shown in many studies.[8] No statistically significant difference in the prevalence of severe dental It is suggested that a study with a larger sample size and equal numbers of girls and boys in each age groups would be performed. Irregular recall appointment was found as one of the most important predictive factors for severe dental anxiety in children. A total of 60% of children did not have regular recall dental visits. Irregular dental visits increases experience of pain and

more treatment needs. The majority of studied children need a tooth extraction. Because of complicated treatment needs and awareness about the dental problems, children in This study showed a high level of dental anxiety. Bedi,[8] Skaret,[12] Raciene,[16] Lee,[18] and Oliveira[21] also emphasized on the importance of regular dental visits. Parental dental anxiety, especially mothers, is another factor affects a child's dental anxiety. Females show more anxiety in comparison to men.[13] Influence of maternal anxiety on dental anxiety of children aged preschool[26] and after 6[9,18] has been shown in previous studies. In Results of this study, no significant relationship between maternal dental anxiety and child's dental anxiety was found. It could be due to differences in methodology. Children completed the questionnaire under the supervision of dental assistant independent of their mother. Cooperative behavior of the children during the injection of local anesthetic solution was also assessed. Injection of local anesthetic solution is one of the most anxiety-producing stimuli in the dental operatory. According to findings, high dental anxiety and previous negative dental experiences are important factors in predicting clinical behaviour. Children aged 6-12 years have more independence in decision-making. Some of them can avoid visiting the dentist duo to high anxiety and the reported prevalence of high dental anxiety could be lower than the actual prevalence. The Studied children were a group of Iranian population; so the results cannot be generalized to other children with different cultures and socioeconomic conditions. The other error occurs in the collection of information (information bias). It is duo to the parental anxiety or child's shaming in responding the questionnaire. Children may also express more anxiety because of awareness of dental problem. According to the importance of dentally factors affecting anxiety and cooperative behavior of children in a dental visit, it is expected that informing the parents about the regular visits since birth, can improve a child's oral health-care and reduce the treatment needs of the children. Reduction of the negative dental experience in children prevent dental anxiety be increased in older ages.

IV. Conclusion

High prevalence of severe dental anxiety may be seen in early years of school. It seems that general factors such as family factors have less impact on behavior of school aged children in a dental visit.

References

- [1] Klingberg G, Raadal M, Arnrup K. Dental fear and behaviour management problems. In: Koch G, Paulsen S, editors. *Pediatric Dentistry: A Clinical Approach*. 2nd ed. Copenhagen: Munksgaard; 2009. p. 32.
- [2] Klingberg G, Broberg AG. Dental fear/anxiety and dental behaviour management problems in children and adolescents: A review of prevalence and concomitant psychological factors. *Int J Paediatr Dent* 2007;17:391-406.
- [3] Folayan MO, Idehen EE, Ojo OO. The modulating effect of culture on the expression of dental anxiety in children: A literature review. *Int J Paediatr Dent* 2004;14:241-5.
- [4] Arnrup K, Broberg AG, Berggren U, Bodin L. Lack of cooperation in pediatric dentistry: The role of child personality characteristics. *Pediatr Dent* 2002;24:119-28.
- [5] Pinkham JR. Dynamic of changes. In: Pinkham JR, Casa Massimo PS, editors. *Pediatric Dentistry-Infancy Through Adolescence*. 4th ed. Philadelphia: Elsevier Saunders; 2005. p. 469-71.
- [6] Schwarz E. Dental anxiety in young adult Danes under alternative dental care programs. *Scand J Dent Res* 1990;98:442-50.
- [7] Hakeberg M, Berggren U, Carlsson SG. Prevalence of dental anxiety in an adult population in a major urban area in Sweden. *Community Dent Oral Epidemiol* 1992;20:97-101.
- [8] Bedi R, Sutcliffe P, Donnan PT, McConnachie J. The prevalence of dental anxiety in a group of 13- and 14-year-old Scottish children. *Int J Paediatr Dent* 1992;2:17-24.
- [9] Klingberg G, Berggren U, Norén JG. Dental fear in an urban Swedish child population: Prevalence and concomitant factors. *Community Dent Health* 1994;11:208-14.
- [10] Raadal M, Milgrom P, Weinstein P, Mancl L, Cauce AM. The prevalence of dental anxiety in children from low-income families and its relationship to personality traits. *J Dent Res* 1995;74:1439-43.
- [11] Bergius M, Berggren U, Bogdanov O, Hakeberg M. Dental anxiety among adolescents in St. Petersburg, Russia. *Eur J Oral Sci* 1997;105:117-22.

- [12] Skaret E, Raadal M, Berg E, Kvale G. Dental anxiety among 18-yr-olds in Norway. Prevalence and related factors. *Eur J OralSci* 1998;106:835-43.
- [13] Peretz B, Efrat J. Dental anxiety among young adolescent patients in Israel. *Int J Paediatr Dent* 2000;10:126-32.
- [14] Colares V, Richman L. Factors associated with uncooperative behavior by Brazilian preschool children in the dental office. *ASDC J Dent Child* 2002;69:87-91, 13.
- [15] Wogelius P, Poulsen S, Sørensen HT. Prevalence of dental anxiety and behavior management problems among six to eight years old Danish children. *Acta Odontol Scand* 2003;61:178-83.
- [16] Raciene R. Prevalance of dental fear among Vilnius pupils Aged 12-15 years, determining factors. *Stomatology Baltic DentMaxillofac J* 2003;5:52-6.
- [17] Gustafsson A, Arnrup K, Broberg AG, Bodin L, Berggren U. Psychosocial concomitants to dental fear and behaviour management problems. *Int J Paediatr Dent* 2007;17:449-59.
- [18] Lee CY, Chang YY, Huang ST. Prevalence of dental anxiety among 5- to 8-year-old Taiwanese children. *J Public Health Dent* 2007;67:36-41.
- [19] Lee CY, Chang YY, Huang ST. The clinically related predictors of dental fear in Taiwanese children. *Int J Paediatr Dent*.