International Journal of Research in Health and Allied Sciences

Journal home page: www.ijrhas.com

Official Publication of "Society for Scientific Research and Studies" [Regd.]

ISSN: 2455-7803

Original Research

Parental Attitudes and Tooth Brushing Habits in Preschool Children

[1]Sumaiya Muzaffar, [2]Mohammad Shakeel, [3]Mudasar Ahad

[1]MDS, Pediatric and Preventive Dentistry, SKIMS-MCH, Bemina, Srinagar, Jammu and Kashmir, India;
[2]Head Department of Oral and Maxillofacial Surgery, SKIMS-MCH, Bemina, Srinagar, Jammu and Kashmir, India;
[3]Associate Professor, Department of Dentistry, SKIMS-MCH, Bemina, Srinagar, Jammu and Kashmir, India

ABSTRACT:
Objectives: To assess the tooth brushing habits of preschool children and to determine the role and amount of supervision given to them by parents. **Methods:** A pretested self-designed questionnaire was used to collect information from parents of 200 preschool children in Anganwadi and Kindergarten. Statistical analysis was done and Chi-square test was used. **Results:** Tooth brushing habits in these children was started at a mean age of 22.4 months (SD 8.4).62% of the preschool children used toothbrush and toothpaste for cleaning teeth and brushing habits were mainly (60%) introduced by mothers. **Conclusion:** Tooth-brushing, even with fluoride toothpaste, may be seriously compromised as a method of reducing caries in toddlers because teeth are being brushed too briefly. Mothers played a vital role in introducing and teaching the child how to brush. In children less than 10 months of age tooth brushing was not started at all.
Keywords: Tooth brushing, Preschool children, Habits

Received: 16 October, 2021 Accepted: 22 November, 2021

Corresponding author: Sumaiya Muzaffar, MDS, Pediatric and Preventive Dentistry, SKIMS-MCH, Bemina, Srinagar, Jammu and Kashmir, India

This article may be cited as: Muzaffar S, Shakeel M, Ahad M. Parental Attitudes and Tooth Brushing Habits in Preschool Children. Int J Res Health Allied Sci 2021; 7(6):85-88.

INTRODUCTION

The importance of tooth cleaning (usually brushing) and the use of a fluoride toothpaste are well recognized in caries prevention.[1] A systematic review of the effectiveness of fluoride toothpaste, conducted by the Cochrane Collaboration, found that for the 70 studies contributing data for the meta-analysis, the D(M)FS pooled preventive fraction was 24%.[2] Tooth brushing habits which are learnt during early years of life, are deeply ingrained in the child's mind and this may leads to adoption of good oral hygiene methods in later life. Maintaining good oral health is important among preschool children as prevalence of dental caries is found to be high in these children.

Tooth brushing is a simple and effective way to remove plaque, thereby preventing dental caries and periodontal disease. There is little information in Mangalore on the about how parents become aware that their child's mouth needs care and attention. Dentists can play an important role in the primary prevention of dental problems in young children through preventive treatments, risk assessment, and anticipatory guidance for parents regarding oral development, caries prevention and overall oral health.

Dental caries prevalence and severity in young children are high, and socioeconomic characteristics and dental utilization are important determinants of their dental caries experience.[5] Maternal attitudes are likely to modify behaviors and thus play an important part in the uptake of favorable dental health practices. Studies indicating an increase in severity of dental caries also suggest mothers neither stress upon nor teach their children healthy lifestyles from birth.[6]

The parents, especially mothers are influential figures in determining children's behavior. Mothers decide the kind of toothbrush, the amount of toothpaste used and the pattern of brushing their children adopt. Furthermore, the earlier the influence, the more likely it will determine the attitude and behavior of their children which may be difficult to change later in life.

The objective of the present study is to assess the tooth brushing habits of preschool children and to

determine the role and amount of supervision given to them by parents.

MATERIALS AND METHODS

The study population consisted of parents of 200 preschool children in four anganwadis and one kindergarten. A pretested questionnaire was used to collect sociodemographic details and information on oral hygiene practices. Parents were informed and a written consent was obtained prior to the study. Parents who gave consent for the study were included. Those who did not give consent were excluded from the study.

Both male and female children were examined but gender differences were not considered in this study. Preschool children those who were available at the time of the study were included for the study. A pretested questionnaire was used by calibrated examiner to record the information.

The data analysis included descriptive statistics. Associations between the tooth brushing with other variables were performed using a Chi-square test. The data was analyzed using SPSS version 16 (Chicago, IL, USA) and level of significance was set at $p < 0.05$.

RESULTS

Table 1: Age at which children started to brush their tooth

Age in months			Total
0-10	N %	25 12.5	200
11-18	N %	70 35	200
19-26	N %	60 30	200
27-36	N %	30 15	200
>36	N %	15 7.5	200

Table 2: Person responsible for introducing tooth brushing in preschool children

Person Responsible	N	%
Mother	120	60
Father	40	20
Siblings	20	10
Grand Parents	15	7.5
Others	5	2.5

Table 3: Frequency of tooth brushing in preschool children and parents

Frequency	Child		Parents	
	N	%	N	%
Once a day	100	50	30	15
Twice a day	50	25	140	70
> Twice a day	30	15	20	10
Never brush	20	10	10	5

The mean age of the preschool children was 28.40 (SD 15.3) months with median of 26 and ranged 8 to 68 month. The first tooth erupted in the oral cavity of these children was at a mean age (months) of 8.4 (SD 2.1) as reported by the parent through questionnaire. Preschool children started to brush their teeth at a mean age of 22.4 months (SD 8.4) (Table 1) but used toothpaste only at a mean age of 27.3 (SD 7.6) months. The brushing habits were mainly introduced by mother (60%) than the father (20%). (Table 2)

Supervision for brushing was stopped at a mean age of 42 (SD 7.6) months. Positive association was observed between the age at which tooth brushing was started and the age of starting toothpaste in preschool children ($p < 0.001$). Twenty seven percent of preschool children of age between 13 and 72 months had received no instructions on tooth brushing. About 63% of preschool children 0 to 24 months of age were supervised.

Tooth paste was used only for children >20 months of age. Younger mothers, mothers with higher level of education, urban residence and higher family income were seen to play a significant role in the use of brush and toothpaste by the child ($p = 0.034$). The majority of parents (70%) brushed twice a day (50%), whereas in children, the majority brushed once a day, and quarter of the children were brushing when they remembered sometimes.

DISCUSSION

Tooth-brushing serves the dual purpose of plaque removal and topical fluoride application, both contributing to the control of dental caries. Tooth-brushing of a pre-school child by a parent involves at least two distinct but interrelated elements: (1) the personal interaction between parent and child and (2) the actual task of toothbrushing. The study reported here is concerned principally with the task element of tooth-brushing.

Typically, dental texts recommend that parents brush infants'/toddlers' teeth at least once, preferably twice, per day.[7,8]

In this study, parents of 200 preschool children were interviewed with a mean age of 28.40 months. It was decided to recruit our sample from Anganwadis and Kindergartens, as it represented children in the age group that we were interested to study. Among the parents of the pre-school children, mothers were interviewed in most cases. Tooth brushing was started in preschool children at the age of 12 to 28 months (mean age being 22.4 months), whereas toothpaste was introduced later at a mean age of 19.7 months. This indicates that parents usually mothers started to brush their children's teeth much later than they had noticed the eruption of the first tooth in the oral cavity at a mean age of 8.4 (SD 2.1) months. Majority (more than 50%) of preschool children started to use toothpaste only at age of 24 months.

In this study, introduction to tooth brushing in pre-school children was done mainly by the mothers. The results of this study support findings of Khadri et al[3] which emphasized on the role of the mother in introducing the child to tooth brushing. It is interesting to note the way in which tooth brushing was introduced among these children were mainly by toothbrush (47%) and by traditional methods (3%). Comparing tooth brushing frequency of mothers to their preschool children, there is a lack of correlation between the brushing behaviors of mothers and their preschool children in this study. This is not in line with previous studies which indicated that parents' oral behavior had a direct influence on the number of decayed teeth in their children (Okada et al)[4]

Tooth brushing in preschool children was supervised by mothers and this percentage increased with the child's age, but a small proportion of children were not brushing their teeth at all in this study. In reference to brushing supervision, other studies have also reported similar findings of Hashim et al).[5] Although the results of this study showed lack of significant correlation between brushing frequency of mothers to their preschool children, it should be noted that (Table 3) all of the parents brushed either once, twice or thrice a day. This good oral hygiene practice in their parents has resulted in 75% of preschool children to brush their teeth.

The lack of dental health education to preschool children and their parents could be the reason for a big proportion of children brushing their teeth only once a day, infrequently or not at all.[6] It is interesting to observe that tooth brushing which was exclusively carried out by the child were few; whereas in most cases, brushing was done with the help of mother. This finding is not in correlation with previous report where 40% of preschool children refused parents' help for brushing (Finlayson et al).[9] Although, analyzing the reasons given by parents for not supervising tooth brushing were the child knew how to brush, large family size and, in few cases, child wanted to brush their teeth by themselves.6 Most of the mothers have a very little knowledge regarding the oral hygiene practices which includes brushing, flossing, use of fluoride, etc. These findings correlate with the findings of Suresh et al.[10]

CONCLUSION

Mothers played a pivotal role in introducing and teaching the child how to brush. There was no positive correlation between the brushing behavior of the parents and among preschoolers. When preschooler was above 25 months of age tooth brushing was carried out by the child with the help of parents.

The results of this study are important as they indicate that future health education programs should reinforce existing behavior by supporting it with specific technical advice for brushing, including information on when, how long and how often to brush. Also the reasons for brushing the teeth and the age when brushing should begin could be more clearly defined. Importance of oral health education and promotion to parents by health personnel during routine health check-ups and dental visits of preschool children should be implemented and also importance of promoting earlier start of use of fluoride toothpaste to prevent dental caries should be recommended. It is important that contrasts between parents' and dentists' expectations be much better understood if dentists are to be effective in improving the dental health of children.

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