

Oral Health Care Behavior in a Group of Turkish Children

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Abstract

Background: The purpose of this study was to evaluate oral health attitude and behavior of a group of Turkish children aged between 6-12 years

Methods: A sample of 139 children attending Marmara University Dentistry School (MUDS) Department of Pediatrics Dentistry between December 2002 to April 2003 was selected.

Results: The mean age for girls was 8.82 yr (SD=2.06) and for boys was 8.87 yr (SD= 2.04). The reported age of starting tooth brushing was 4.5. 11.5 % of children declared that they changed their brush once a year, 38.8 % twice a year and 25.9% three times a year. 52.5% of children declared that they learned the principles of tooth brushing and the use of dental care products from the MUSD Department of Pediatrics Dentistry dentists during their visits and 78% of those children have applied what they learned from them.

Conclusion: It is found necessary to educate mothers of tooth brushing; since the children mostly receive their first training from their mothers. Besides, schools and kindergartens should provide oral hygiene instruction to parents and children.

Keywords: Oral health behavior, Turkish school children, Tooth brushing habits

Introduction

Over the past two decades in dental caries experience of children has been observed in many industrialized countries (1, 2). The widespread use of fluorides, especially in toothpastes, improvements in oral hygiene, changing patterns of sugar consumption, changes in diagnostic criteria, and the preventive and restorative efforts by dental health services are often considered the main reasons for the decline in dental caries (3). On the other hand, increasing levels of dental caries have been found in some developing countries, especially for those where preventive programs have not been established (4).

Several studies correlated the parents' oral status and attitudes toward dentistry with their children's oral status. It has been found that the more positive the parents' attitudes toward dentistry, the better dental health of their children (5).

Since 1980s, health authorities have had emphasis on oral health education in order promote oral health. Systematic information is scarce on the oral health status of schoolchildren as well as parents' knowledge and attitudes (6).

According to Turkish Dental Association, 83% of 6 yr old children have experienced caries in deciduous dentition.

Early dental visit recommended in order facilitating patient doctor relationship. Besides, dental visit should not be considered as a punishment and the atmosphere has to facilitate communication between dentist and child patient. The American Academy of Pediatric dentistry recommends the first dental visit occur within six months and no later than twelve months of age (7). Another important issue is to avoid any relation between "going to the dentist" and "the ache that the child might feel". However, to mislead or deceive the child by saying "you will not feel any tooth ache" will create problems for further treatments. Therefore, the first and regular dental visit of a child is considered one of the major caries preventive strategies. National oral health behavior data are needed for national planning and evaluation of health promotion programs and systematic analysis of oral health behavior may help the specification of oral health messages as well as development of behavior modification strategies tailored for Turkish population (8).

The purpose of this survey was to evaluate oral health care perception and behavior of 6-12 yr old children attending Department of Pediatrics Dentistry; Marmara University, Turkey.

Materials and Methods

The study group comprised of 139 children who applied to MUDS Department of Pediatric Dentistry Clinic in between December 2002 to April 2003. MUDS is the one of two public dental school in Istanbul that the population is estimated about 12 million. Therefore, the sample is able to represent every kind of socio-economic children.

Oral health behavior data were collected by use of self-administered questionnaire that has been prepared upon the information received through "Turkish Dental Association" internet web site and MUDS academicians. As a pilot study, 15 children of 6-12 age group were subject to the pre-questionnaire. Upon the results of this pre-questionnaire, the questioning technique of the questions #6, 7 and 8, regarding regular tooth brushing, were changed to be close-ended questions. The questionnaire consists of personal data, work experience of parents, and eighteen questions regarding the oral hygiene habits of the child (Appendix). Frequency distributions, X^2 tests and t -test were used for the statistical analysis. The data have been evaluated with SPSS 11.5. The results of continuous random variables have been given as mean±standard deviation and for discrete random variables the results were given as percentages. The significance level was accepted as $P < 0.05$.

Results

Demographic information on the participants is presented in Table 1. The age group ranged from 6 to 12 yr old. There were 71 boys (51.1%) and 68 girls (48.9%). The mean±standard deviation of age for girls was 8.82±2.06 and for boys was 8.87±2.04 ($P = 0.05$) and the mean±standard deviation of tooth brushing age for girls was found to be 4.67±1.83 and for boys 4.78±2.18 ($P > 0.05$) as summarized in Table 2.

Insignificant association was detected between the parents' education and the child's tooth brushing habit ($X^2 = 1.355$, $P = 0.869$).

The main source of information regarding tooth brushing was reported as follows: 65.5% (n= 91) from their mother, 12.2% (n= 17) from their father, 9.4% (n= 13) from their elder sister/ brother and 6.5 % (n= 9) from their teacher Fig. 1.

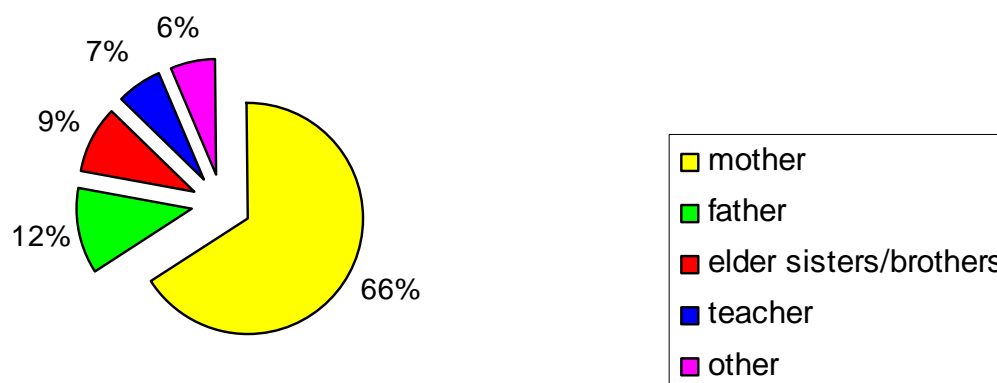
Regarding the frequency of tooth brushing, the results show that only 30.9% of the children brushed their teeth once per day, and nearly half of the respondents claimed to brush their teeth twice a day (58.3%) and 10.8% (n=15) of children brushed their teeth before breakfast, whereas 89.2% (n= 124) did not. Also, 81% (n= 113) of the children stated that they brushed their teeth before going to bed, 18.7% (n= 26) said they did not. There was not a significant difference between girls and boys about tooth brushing habit ($P > 0.05$).

Responses concerning the number of times for changing the toothbrush were as follows; 11.5% (n= 16) of children declared the change of tooth brush as once a year, 38.8 % (n= 54) twice a year and 25.9% (n= 36) 3 times a year. Regarding the reason for how they choose their toothbrush, the 56.8% (n= 79) of the children stated that they chose their tooth brush upon the package appearance, whereas 36% (n=51) chose upon their parents' selection. Also, 63.3% (n= 88) of children declared that they use tooth pastes produced for children, 36.7% (n= 51) use normal tooth paste. On the other hand, 96.4% of the children stated that they did not use dental floss, 86.3% not used menthol or gargle. 92.8% (n= 129) of the children informed their parents about their dental problems. In our sample, 57.6% (n= 80) of children were not afraid of the dentists or going to a dentist but 22.3% (n= 31) answered "yes" and 20.1% (n= 28) declared "sometimes".

The percentage of children who did not brush their teeth after desserts/ sweets was 68.3% (n= 95). 52.5% (n=73) of the children stated that they learned correct tooth brushing from their dentists and 78.1% (n= 57) of these also stated that they applied what they were taught.

Table 1: Demographic information on the participants including beginning age of tooth brushing

		Mean \pm std. dev.	P-value
Age (yr)	Girls (n=68)	8.82 \pm 2.06	0.8859
	Boys(n=71)	8.87 \pm 2.04	
Tooth brushing age	Girls (n=68)	4.67 \pm 1.83	0.7483
	Boys(n=71)	4.78 \pm 2.18	

**Fig.1:** From whom they learned tooth brushing

Discussion

Lack of number of oral epidemiological studies have been carried out in Turkey, therefore systematic data on oral health behavior, knowledge, and attitudes of parents in relation to child dental care are not available at national level. In this point of view, the present study intended to provide such information regarding tooth-brushing habits of 6-12 age group of children by means of the study sample furthermore, to aid the organization of school oral health programs.

First tooth brushing age for girls was found to be 4.67 and for boys 4.78 as sum where as experts recommend as 1.5. This result implies the correlation between the spread out cavities in the children and the start of tooth brushing at older ages. Vaitkeviciene et al. reported that only 5.0% of parents started to brush children's teeth when the first tooth erupted (9).

Forty percent of the population brushes their teeth from time to time. Twenty six percent brushed 2-3 times per day. Regarding the frequency of tooth-brushing, our results show that only 30.9% of the children brushed their teeth once per day, and nearly half of the respondents claimed to brush

their teeth twice a day. 30.6% of 5-6 yr old children brushed at least once a day in Turkey (10). A cross-sectional study of Turkish school pre-adolescents aged 10 to 12 (n= 611), mostly with regular tooth brushing habits (69% at least once a day) (11).

Once or twice daily tooth brushing frequency, stable between 5th and 8th grades. A minority of children showed low or inconsistent frequencies and these results may indicate an opportunity for intervention to improve habits (12). Tooth brushing at least twice a day for 64% of children and this practice was relatively frequent in urban areas (13). Rajab et al. reported that tooth brushing at least twice a day was 31% of the children; 14% of children aged 6-9 yr had assistance from adults in brushing (14). Petersen et al. reported that the tooth brushing at least once a day was claimed by 88% in Thai primary school children and added that systematic health education may further improve the oral health of provides a unique setting for such programs (15). In Bhopal India, seventy-five per cent of the children reported tooth brushing once a day, 31% used a plastic toothbrush and the general level of knowledge on oral health

was low (16). Only 40% children in China study brushed their teeth at least twice a day. This study has shown also that systematic oral health promotion programs are urgently needed (17).

The main reasons of "not brushing teeth" are cited as the lack of the adoption of tooth brushing habit at earlier ages and the lack of necessary training and consciousness about the matter.

The most mothers (71%) knew that they should brush their children's teeth twice a day using a small toothbrush (94%). Forty percent of the children insisted on brushing their own teeth and 40% of the mothers brushed their children's teeth inadequately (18).

In our sample, 57.6% (n= 80) of children were not afraid of the dentists or going to a dentist but 22.3% (n= 31) answered "yes" and 20.1% (n= 28) declared "sometimes".

Although the dentists recommend that the teeth to be brushed after breakfast, 10.8% (n=15) rate of tooth brushing explains the high rate of tooth cavities. On the other hand, the recommendation of tooth brushing twice a day being applied by 58.3% (n= 81), proves that the recommendation has not been taken into account by most of the children. 43.4% of children brushed their teeth after meals (10). Rajab et al. reported that 62% of children brushed before sleeping; 40% after breakfast; 28% after lunch; 23% before breakfast while 20% brushed their teeth after dinner (14). Besides, the fact that 52.5% (n= 73) of children having learned how to brush their teeth and timing information from their dentists shows that teaching/informing attempts of the dentists are also insufficient.

According to this result, it is possible to state that the parents do not have sufficient information to teach tooth brushing to their children.

Parents' role in the oral hygiene habits of their children was limited in public schools in North Jordan. Parents were not proactive in making sure that their children received regular dental care. Parents' knowledge and attitudes about the importance of oral health care and their fears about dental treatment influenced their children's dental care (19).

In this study, insignificant association was detected between the parents' education and the child's tooth brushing habit. There also was a statistically significant relationship between the parents' tooth-brushing habit and the children's tooth brushing, and between the parents' frequency of tooth brushing and the children's frequency of tooth brushing (10).

Dental care habits of children were highly affected by dental visiting habits of parents, and variations by level of education of parents were found. The discrepancy between dental knowledge and attitudes of parents and oral health care practices indicate the need for oral health education. School-based oral health promotion programs should be established in Jordan to influence the oral health behavior of children and parents and to avoid further deterioration in their oral health (14). Parents have a moderate knowledge about dental health education and dental caries prevention, no significant sex differences being found, and poor knowledge about periodontal diseases prevention. The families with children in primary schools do not get involved in oral/dental health education (20).

According to recent epidemiological data, oral hygiene habits including brushing and flossing is not satisfactory among Turkish children and adults (21). To maintain oral health care in children; it must be emphasized that teeth should be brushed minimum twice a day (after breakfast and before bed at night). Foods like cake, candies, chocolates and cookies have to be taken after meals instead of between meals, and teeth have to be brushed immediately after. At least, mouth to be washed with water. A dentist should be visited at least once a year, even if there is no tooth problem, just for check-up purposes. However, in developed countries the dentists are visited twice a year. 10% the population has never visited a dentist. 43 % has not visited a dentist for 1 year. In our sample, 57.6% (n= 80) of children were not afraid of the dentists or going to a dentist but 22.3% (n= 31) answered "yes" and 20.1% (n= 28) declared "sometimes". Regular dental visits were made by 71% of children (13). Another study has shown

that dental visits by children are mostly prompted by symptoms or problems with teeth (14).

Since the children are primarily trained by their mother, especially the mothers have to be trained about the matter. Because mothers are always identified by their children and they have to be a sample model by applying tooth brushing for them, while they teach their children. Besides, the effectiveness of kindergartens and schools has to be increased in terms of teaching tooth-brushing habits and systematic school-based oral health care programs should be established (13).

This study may serve as a baseline for the evaluation of demonstration projects on comprehensive oral health care for schoolchildren in Istanbul. As a result; community-oriented oral health promotion programs is needed in order to increase the level of knowledge and to change attitudes and practices in relation to oral health among children. The results of this study indicate that children's and parents' attitudes toward oral health and dental care need to be improved. Comprehensive oral health educational programs for both children and their parents are required to achieve this goal.

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