

ORIGINAL RESEARCH

Oral Health Knowledge, Attitude, and Practices in 6–12-year-old School-Going Children of North East Delhi

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ABSTRACT

Introduction: Dental caries is an important public health problem, and it is the most prevalent oral disease among children. During the past two decades, increasing levels of dental caries in children and adolescents have been observed in developing countries, in contrast to developed countries. The knowledge, attitude, and practice model of oral health education is often the foundation of most health education programs. Very few studies have been done to assess the level of oral health-related knowledge and the attitudes and practices of children in developing countries. Hence, the present study was undertaken to find out the oral health knowledge, attitude, and practices in 6–12-year-old school-going children of North East Delhi.

Materials and Methods: A total of 700 schoolchildren of age 6–12 years coming from both genders, recruited from primary schools of North East Delhi were evaluated. The World Health Organization Oral Health Assessment Pro forma 2013 was filled by a single examiner after clinical examination of each child. The treatment needs for every child was evaluated and was ascertained after discussion with one of the dental supervisors or cosupervisors.

Results: About 81.14% of children answered that brushing prevents tooth decay and gum disease while 81.42% knew that eating sweets cause tooth decay. 41.42% (male 37.79%:female 45.76%) brushed their teeth once a day, while 54.85% (male 58%:female 51.09%) 2 or more times a day and 3.71% irregularly. 44% used fluoride toothpaste for brushing, 32.85% use plastic toothpicks, 19.71% used dental floss, and 10.4% used chew stick for cleaning teeth and gums.

Conclusion: Approximately 70% of children were afraid of dentist because of possible pain. Almost 96% of children brushed their teeth regularly. Approximately 47% of children visited dentists and the mostly accompanied by mother, father, or both. Most of the children were having basic oral health knowledge.

Keywords: Attitude, Knowledge, Practices, World Health Organization Oral Health Assessment Pro forma.

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INTRODUCTION

Oral health is a state of being free from chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay and tooth loss, and other diseases and disorders that affect the oral cavity.^[1] During the past two decades, increasing levels of dental caries in children and adolescents have been observed in developing countries, in contrast to developed countries. To overcome the high prevalence of dental caries in developing countries, the need for community-oriented preventive program is emphasized. Oral health education is an integral part of these programs. Oral health education is believed to be a cost-effective method for promoting oral health if done through schools, where all children irrespective of their socioeconomic status or ethnicity can be reached.^[2] Knowledge of dental health and treatment needs of schoolchildren is important for developing appropriate preventive approaches, anticipating utilization patterns, and planning effectively for organization and financing of dental resources.^[3] Oral health promotion through schools is recommended by the World Health Organization (WHO) for improving knowledge, attitude, and behavior related to oral health and for prevention and control of dental diseases among schoolchildren.^[1] The knowledge, attitude, and practice (KAP) model of oral health education is often the foundation of most health education programs. According to this model, adequate oral health practices occur due to healthy attitudes which, in turn, develop due to proper knowledge.^[2]

In other studies, based on the KAP model of oral health education, the educational intervention significantly improved oral health practice. Therefore, as a first step, baseline studies need to be carried out on knowledge, attitude, and practices regarding oral health.^[2]

This study was conducted to assess oral health knowledge, attitude, and practices in 6–12-year-old school-going children of North East Delhi school.

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Table 1: Oral health knowledge and attitude

Question	Options	Participants	Male	Female	P value
		n (%)	n (%)	n (%)	
Where do you get information regarding oral health?	Friends	16 (2.28)	12 (3.15)	4 (1.25)	0.003*
	Relatives	94 (13.42)	64 (16.79)	30 (9.40)	
	Teachers	96 (13.71)	56 (14.69)	40 (12.53)	
	TV and radio	32 (4.57)	16 (4.19)	16 (5.01)	
	Dentist	462 (66.00)	233 (61.15)	229 (60.10)	
Tooth decay can make me look bad	Yes	536 (76.57)	295 (77.42)	241 (75.54)	0.83
	No	152 (21.71)	80 (20.99)	72 (22.57)	
	Do not know	12 (1.71)	6 (1.57)	6 (1.88)	
Keeping natural teeth are not that important	Yes	496 (70.85)	259 (67.97)	237 (74.29)	0.08
	No	204 (29.15)	122 (32.02)	82 (25.70)	
I am afraid of going to a dentist because of possible pain	Yes	492 (70.28)	269 (70.60)	223 (69.90)	0.9
	No	208 (29.72)	112 (29.40)	96 (30.10)	
Regular visits to the dentist keep away dental problems	Yes	618 (88.28)	339 (88.97)	279 (87.46)	0.61
	No	82 (11.72)	42 (11.03)	40 (12.53)	
Brushing my teeth can prevent tooth decay and gum disease	Yes	568 (81.14)	315 (82.67)	253 (79.31)	0.3
	No	132 (18.86)	66 (17.32)	66 (80.69)	
Eating and drinking sweet things does not cause tooth decay	Yes	570 (81.42)	297 (77.95)	273 (85.58)	0.01*
	No	130 (18.58)	84 (22.04)	46 (14.42)	

* $P < 0.05$ is statistically significant and ** $P < 0.001$ is statistically highly significant

Table 2: Oral health practices

Question	Options	Participants	Male	Female	P value
		n (%)	n (%)	n (%)	
How often do you brush your teeth	Once a day	290 (41.42)	144 (37.79)	146 (45.76)	0.19
	2 or more times a day	384 (54.85)	221 (58.00)	163 (51.09)	
	Once a week	4 (0.57)	2 (0.52)	2 (0.62)	
	2–3 times a month/never	22 (3.14)	14 (3.67)	8 (2.50)	
Do you use toothpaste containing Fluoride	Yes	308 (44.00)	152 (39.89)	156 (48.90)	0.023*
	No	160 (22.85)	100 (26.24)	60 (18.80)	
	Do not know	232 (33.14)	129 (33.85)	103 (32.28)	
Do you use any of the following to clean your teeth	Plastic toothpicks	230 (32.85)	116 (30.44)	114 (35.73)	0.23
	Dental floss	138 (19.71)	80 (20.99)	58 (18.18)	
	Chew stick	70 (10.00)	44 (10.49)	26 (8.15)	
	Others	262 (37.42)	141 (37)	121 (37.93)	

* $P < 0.05$ is statistically significant and ** $P < 0.001$ is statistically highly significant

MATERIALS AND METHODS

The present study was carried out in various schools of North East Delhi. Ethical clearance was taken from the institutional ethical committee and a written informed consent was obtained from all parents or caretakers. A list of schools of North East Delhi area was made. A two-stage sampling technique was adopted to select the study population. In the first stage, 10 representative schools from the list of schools of the area were identified randomly. In the second stage, using a computer-generated random number table based on the enrollment registration number of students, 70 children of 6–12-year-old age group were selected randomly from each of the 10 selected schools, to reach a sample size of 700 children (Figure 1). Questions were prepared and put them in a precise way as questionnaire form, which included a series of questions regarding the chronological age of

child, feeding habits, and oral health knowledge, attitude, and practices.^[4] This questionnaire was given to the children examined and was filled by them under guidance of their teacher.

RESULTS

About 66% received information regarding oral health mainly from dentists. 70.85% considered keeping natural teeth was important. 76.57% of children agreed that tooth decay makes them look bad. 81.14% of children answered that brushing prevents tooth decay and gum disease while 81.42% knew that eating sweets cause tooth decay. 70.28% were afraid of going to dentist because of possible pain and 88.28% agreed that regular visits to dentist keep away dental problems (Table 1). 41.42% (male 37.79%:female 45.76%) brushed their teeth once a day, while 54.85% (male 58%:female 51.09%) 2

Table 3: Behavior (practice) toward dental problems and past dental experience

Question	Options	Participants	Male	Female	P value
		n (%)	n (%)	n (%)	
How often during the past 12 months did you have toothache?	Often	38 (5.42)	20 (5.25)	18 (5.64)	0.004*
	Occasionally	288 (41.14)	148 (38.84)	140 (43.88)	
	Rarely	112 (16.00)	80 (20.99)	32 (10.03)	
	Never	238 (34.00)	121 (31.75)	117 (36.67)	
	Do not know	24 (3.42)	12 (3.14)	12 (3.76)	
Missed classes due to toothache during the past 12 months?	Yes	1 (0.14)	1 (0.26)	0 (0)	0.36
	No	699 (99.85)	380 (99.73)	319 (100)	
Have you visited the dentist during the past 12 months	Yes	330 (47.14)	183 (48.03)	147 (46.08)	0.661
	No	370 (52.85)	198 (51.96)	172 (53.81)	
What was the reason for your last visit to the dentist	Screening	150 (45.45)	89 (48.63)	61 (41.49)	0.685
	Filling	92 (27.87)	50 (27.32)	42 (28.57)	
	Cleaning	44 (13.33)	22 (12.02)	22 (14.96)	
	Extraction	44 (13.33)	22 (12.02)	22 (14.96)	
Who went with you for your last visit to the dentist?	None	2 (0.60)	2 (1.09)	0 (0)	0.011*
	Mother	102 (30.90)	49 (26.77)	53 (36.05)	
	Father	144 (43.63)	80 (43.71)	64 (43.53)	
	Friends and Siblings	14 (4.24)	14 (7.65)	2 (1.36)	
	Both the parents	68 (20.60)	40 (21.85)	28 (19.04)	

* $P < 0.05$ is statistically significant and ** $P < 0.001$ is statistically highly significant

or more times a day and 3.71% irregularly. 44% used fluoride toothpaste for brushing, 32.85% use plastic toothpicks, 19.71% used dental floss, and 10.4% used chew stick for cleaning teeth and gums. 62.56% (male: 64.10%; female: 59.55%) had toothache during the past 12 months (Table 2). It was found that 47.14% (male: 48.03%; female: 46.08%) of children visited the dentist during the past 12 months. Majority of children visited dentist for screening (45.45%) followed by filling (27.87%), cleaning (13.33%), and extraction (13.33%). Mostly children were accompanied by father (43.63%), mother (30.90%), or both of them (20.60%) (Table 3).

DISCUSSION

In the present study, 76.57% of children knew that tooth decay can affect their esthetics which was similar to the findings of Priya *et al.*^[5] (74.5%) and Al-Omiri *et al.*^[6] (77%). Regarding source of information about oral health, 66% of children received information from dentist followed by teachers (13.71%) and relatives (13.42%). When comparing genders, boys (16.79%) received significantly more information from relatives than girls (9.40%) ($P < 0.05$). Majority of children (88.28%) agreed that regular visit to dentist keeps away dental problem. Mehta *et al.*^[7] (83.2%) observed similar findings, whereas it was slightly less in studies done by Blaggana *et al.*^[8] (77.6%) and Priya *et al.*^[5] (71.60%). 81.14% of children were aware that brushing teeth can prevent tooth decay and gum disease which is in accordance with the findings by Goutam *et al.*^[9] (80.72%) and Harikiran *et al.*^[4] (75.1%) Around 70.28% of children were afraid of visiting dentist because



Figure 1: Oral examination of children in school

of possible pain which is slightly higher than the study done by Harikiran *et al.*^[4] (67.8%) Only around 18.58% of children had idea that eating and drinking sweet things cause tooth decay. Boys (22.04%) were significantly more aware than girls (14.42%) ($P < 0.05$).

While assessing oral health practices in children, it was found that around 55% of children brushed their teeth twice a day, while 41.42% brushed their teeth once a day and 3.71% irregularly. Priya *et al.*^[5] and Gupta *et al.*^[10] had similar observations. The use of other recommended oral hygiene methods such as dental floss (19.71%) was found to be less, probably due to the lack of oral health education. The use of dental floss was higher than Harikiran *et al.*^[4] (4.6%) and Al-Omiri *et al.*^[6] (2%) but quite lower than Hamilton *et al.*^[11] (42%) Only 44% of total children were using fluoridated toothpaste

for tooth brushing. The use of fluoridated toothpaste was higher in girls (48.90%) than boys (39.89%) which was statistically significant.

In this study, it was found that high percentage of children had dental pain (62.56%) during the past 12 months. Harikiran *et al.*^[4] (59.7%) reported dental pain in 11–12-year-old schoolchildren of Bengaluru. Dental visits by the children were 47.14% which were higher than the Bengaluru children as reported by Harikiran *et al.*^[4] (35.1%). Fear of dental treatment was found to be high among the study population in the present study (70.28%). Mehta *et al.*^[7] in his study reported fear to be 15.5%, whereas Harikiran *et al.*^[4] reported it to be 46.1%. Only 1 of 700 children took leave from school because of toothache which is relatively very low than other studies. Around 95% of children visited dentist with either mother, father, or both. More girls visited dentist with mother than boys and this was found to be statistically significant ($P < 0.05$). In this study, none of the children were found using tobacco in any form.

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