

Oral Health Perception and Practices among School Children From a Low Socio Economic Locality in Mumbai, India.

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Abstract: Dental caries is the most common chronic disease of childhood that interferes with normal nutrition intake, speech, self-esteem and daily routine activities. Only sporadic data is available on the oral health condition in different states in India. In a metropolitan city like Mumbai, no systematic assessment on the oral health problems is available, especially among the children belonging to low socio-economic class, studying in municipal schools. Hence the current study was planned to provide the base line data of oral health perception and practices among the children studying in (V-VII Std.) suburban municipal school and predominantly from a low socio-economic area, located in the field practice area of a teaching medical college. The present cross sectional study was conducted among 299 school children of the age 9 to 13 years using a pre-tested semi-structured questionnaire for face to face interview to assess their oral hygiene knowledge, perception and practices. Majority of the children were aware about importance of daily tooth brushing, avoidance of sweets especially at bedtime. Statistically significant association was found between awareness and practice of daily tooth brushing. Significantly more girls brushed their teeth daily. School oral health program to impart awareness about good oral habits needs to be implemented through all the schools.

Keywords: awareness, knowledge, oral habits, oral hygiene, perceptions, practices.

I. Introduction

Oral health is considered as an integral component of general health. It is highly essential to safeguard oral health right from the childhood otherwise; poor oral health will lead to various dental disorders and diseases which will adversely affect the overall health. Globally among children, dental caries is considered as one of the most important oral health problem. Dental caries is public health problem in India. It is one of the most prevalent oral health diseases in India. The prevalence is as high as 60-80% in Indian school children [1]. According to WHO 2003 Database, the mean DMFT Index at 12 years old ranges between 0.5 to 3.94 for Indian school going children. A nationwide survey of oral health conducted in 2004 throughout India, has shown that the prevalence of dental caries is 51.9% among five year old children, 53.8% among 12 year old children and 63.1% in 15 year old school children highlighting that dental caries is a significant oral health disease [2].

It is evident that cultural beliefs and social taboos play an important role in the perception of the causes of dental decay and gum diseases. In many countries, the number of children brushing their teeth is very unsatisfactory including India. A small proportion of children do not clean their teeth at all. Some may not have access to a toothbrush and many use the traditional cleaning aids like datun, salt and oil, coal ash and locally made powders etc. A considerable population of children in the developing nations is being affected by tooth decay and most of the time, their proper treatment is given the last priority, owing to the limited access to oral health services. In a metropolitan city like Mumbai, no systematic assessment on the oral health problems is available, especially among the children belonging to low socio-economic class, studying in municipal schools. Hence the current study was planned to provide the base line data of oral health perception and practices among the children studying in (V-VII Std.) suburban municipal school and, predominantly from a low socio-economic area, located in the field practice area of a teaching medical college.

II. Materials & Methods

The present Cross-sectional study was conducted in a Municipal Public school located in Malwani-Malad, North Western Suburb of Mumbai city. The area predominantly consists of population from low socioeconomic class, engaged in various unorganised service sector. Mumbai Municipal Corporation, the local self-governance body provides for primary education and healthcare services in the community. There are two municipal secondary schools with a total of 574 students studying from class V to class VII.

Sample size was calculated using formula $4pq / I^2$ [P=prevalence of Dental caries among children=54%, q =100-p = 46% and allowable error = 5.8]. Assuming 10% absenteeism & unwillingness to participate in the study by the children, sample size was calculated as 321. All the children studying in class V, VI, VII of the

school, willing for participation with parents' written consent and present during the oral check-up were included in the study. A total of 299 students participated in the study.

Approval from Institutional Ethics committee and the school principal was obtained for conducting the study. A parent's meeting was called, the purpose of the study was explained to the parents and their consent was taken.

Apre-tested semi-structured questionnaire was used for face to face interview with the children for assessment of oral hygiene knowledge, perception and practices. Plain mouth mirror, ice cream sticks, and probe was used for clinical oral examination by team of dental surgeons. Recording of oral health examination included dental caries status, other related oral health morbidities and DMFT index. All responses were tabulated using Microsoft-Excel 2007 Software for data analysis. Data was analysed by using SPSS software version 16.0. Statistical tools like mean, median, range, proportions and chi-square used as appropriate.

III. Results

In the study, 53.1% were boys and 46.9% were girls. Majority of the children were of 9 to 12 years and few children (10.4%) were above 12 years "TABLE 1". 95.7% children agreed that daily brushing is a good habit, while 92.3% children perceived that eating sweets leads to dental caries. 74.9% children agreed that a person should avoid eating sweets at bedtime "TABLE 2". 77.6% children were brushing their teeth daily, of these, 59.2% brushed their teeth once daily and 18.4% brushed twice a day. 62.5% of children brushed their teeth in the morning, 18.4% both in the morning and at night and the remaining children brushed their teeth at any time of the day. 80.9% used tooth brush with toothpaste for brushing their teeth. 14% used tooth powder while 5.1% applied Masher (tobacco powder). 72.2% children mentioned eating sweets daily of these 20.7% ate at least once, 26.8% twice and 24.7% ate sweets more than twice daily. Only 40.1% children practised rinsing of mouth after the meals "TABLE 3". More girls 83.5% compared to boys 72.3% were brushing their teeth daily in our study. The difference is statistically significant ($p < 0.02$). 80.5% boys and 81.5% girls used tooth brush. 72.9% boys and 71.5% girls ate sweets daily. The difference between the two genders is not significant. Almost the equal proportion of boys and girls rinsed their mouths after meal "TABLE 4" "Fig. 1". Among 272 children with the perception of daily brushing being a good habit, 80.1% brushed their teeth daily. The association between perception and practice of daily tooth brushing is statistically significant ($p < 0.001$) "TABLE 5". 72.8% of children were eating sweets in spite of their awareness that it leads to dental caries. The association between the perception and the habit of eating sweets daily was not significant.

Table 1: age and sex wise distribution of children

Age group	Gender		Total	
	Male	Female	Frequency	Percent
Age in Years	Frequency	Frequency	Frequency	Percent
9-10	50	54	104	34.8%
10-11	41	37	78	26%
11-12	52	34	86	28.8%
12-13	16	15	31	10.4%
Total	159 (53.1%)	140 (46.9%)	299	100%

Table 2: perceptions about oral hygiene habits

Statements	Agree		Disagree / Can't say	
	Frequency	Percent	Frequency	Percent
Daily brushing is a good habit.	286	95.7%	13	4.3%
Eating Sweets leads to dental caries	276	92.3%	23	7.7%
One should avoid eating sweets at bedtime	224	74.9%	75	25.1%

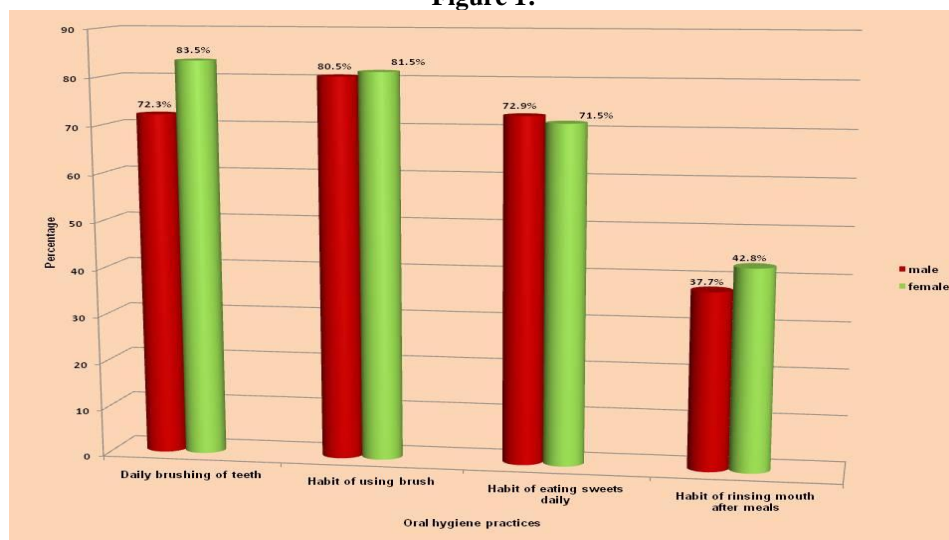
Table 3: oral hygiene practices among children

Oral Hygiene Practices	Yes	Total	Percentage
Daily Brushing Of Teeth	Once	232	77.6%
	Twice		
Habit Of Using Tooth Brush	242	299	80.9%
Habit Of Eating Sweets Daily	Once	216	72.2%
	Twice		
	More Than Twice		
Habit Of Rinsing Mouth After Meal	120	299	40.1%

Table 4: oral hygiene practices in both the genders

Oral Hygiene Practices	Male (159)		Female (140)		Chi ²	'p' value
	Yes		Yes			
Daily brushing of teeth	115	72.3%	117	83.5%	0.681	p<0.02
Habit of using brush	128	80.5%	114	81.5%	0.0044	p>0.8
Habit of eating sweets daily	116	72.9%	100	71.5%	0.014	p>0.36
Habit of rinsing mouth after meal	60	37.7%	60	42.8%	0.3465	p>0.76

Figure 1:



bar diagram showing oral hygiene practices among the children based on their gender.

Table 5: association between perception and practise of daily teeth brushing

Daily Brushing Is Good Habit	Brushing Teeth Daily				Total	
	Yes		No		Number	Percent
	Number	Percent	Number	Percent		
Yes	218	80.1%	54	19.8%	272	91.0%
No	14	51.8%	13	48.1%	27	9.0%
Total	232	77.6%	67	22.4%	299	100.0%

IV. Discussion

The current study assessed the Oral Health related knowledge, attitudes, and practices among 6-13 year old school children studying in Municipal public school in the North western region of Mumbai city. In India data about oral health of municipal school children from lower socioeconomic strata is not available hence this study was aimed to provide information and to assess the oral health needs of this population. Oral disease burden is significantly higher among poor and disadvantaged population with an increase in developing countries [3]. Especially in India dental caries affects more than four fifths of children between 6-19 years. Only a minor proportion of Indian school going children have good oral hygiene compared to larger population among the developed countries [4, 5]. Oral health promotions through schools is recommended by the World Health Organisation (WHO) for improving knowledge, attitudes and behaviour related to oral health and for prevention and control of dental diseases among school children[6].

In the present study 96% of the children believed that daily brushing is a good habit. Among them 80% practised daily teeth brushing. The association between perception and practice of daily teeth brushing was statistically significant. Girls (84%) outnumbered boys in daily teeth brushing. These findings were comparable to the findings of Mehta et al. [6] El Qaderi et al. [7] Kuppaswamy et al. [8]. Almost 92.3% believed that eating sweets lead to dental caries which was consistent with a study in Nigeria by Ogunrinde et al. [9] wherein consumption of sticky sugary and chocolaty food items were perceived as unhealthy to dental health. In our study 78% of children brushed their teeth using toothbrush and toothpaste which was in accordance to a study by Al-Omiri from Jordan [10] and other studies around the globe. About 18.4% of the children brushed their teeth twice daily and this was comparable to the study by Mehta A. et al. from Punchkula, India, however this

was comparatively less than studies by Zhu et al. [11] and M. Priya et al. [12] in Chennai, India and Peng B et al. [13] from China.

V. Conclusion

Although the oral hygiene knowledge among the surveyed children was good, for its transformation into better oral health practices, re-emphasis through teachers and parents is recommended. School oral health program to impart awareness about good oral habits targeted at children aged 9 to 14 years including teacher and parent needs to be implemented in all the schools in the country. In this, School teachers can be trained to emphasize oral health education and in regular monitoring of good oral health habits among school children. Awareness sessions should be conducted for parents on importance of oral health, oral hygiene practices and limiting sugar intake in the form of chocolates and candies among their children. Competitions and incentives for good oral health habits amongst school children can be one of the innovative ways for sustaining this behaviour change.

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