Awareness of Rinsing, Brushing and Snacking Habits In Relation To Their Oral Health Status among School Children.

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ABSTRACT:

Introduction: Hygienic oral health practices are necessary from the young age itself to ensure positive long-term dental health. The aim of the study was to assess the effect of awareness of rinsing, brushing and dietary habits in relation to their oral health status among school children.

Methodology: The present study was a questionnaire-based cross-sectional study. 250 school children of age 9 to 12 years were interviewed, and questionnaires were filled, after which necessary dental examination was carried out.

Results:87.6% of the participants had the habit of mouth rinsing with water, of which 34.4% rinse after every meal.42.4% of the children had the habit of brushing twice daily, and occasional intake of sugared snacks was seen in 14% of the children. The caries prevalence in the studied population was 36.8%.

Conclusion: The knowledge of rinsing, brushing, and dietary habits among the school children was average influencing their oral health and reinforcement of healthy oral practices by educating both the parents and children are necessary.

Keywords:Brushing,dental caries, habit, rinse.

I. INTRODUCTION

Oral health is an essential part of general health. Oral health is defined as a state of the mouth and its associated structures, where there is no disease/ pain and able to function well to masticate food & state of teeth which are of a socially acceptable appearance[1]. The maintenance of oral hygiene is one of the critical elements of oral health. The oral cavity harbors bacteria and is exposed to environmental stimuli such as foods, chemicals and temperature which remain in a balanced state during healthy state of mouth. However, imbalances in equilibrium of defense mechanisms and various stimuli lead to various oral diseases like dental caries and periodontal diseases[2]. Hence, hygienic oral practices such as rinsing, brushing and proper snacking habits from young age are necessary to ensure positive long-term dental health.

Water plays an excellent role for keeping the mouth clean between brushing[3]. Rinsing with water protects the enamel by removing food and sugar left over and above 30% of oral bacteria, without the forces of brushing which when combined with acid can damage the enamel.

Sugary snacks are good to taste, but not healthy especially for teeth. The frequency of snacking is far more important than the quantity consumed. Frequent snacking, without brushing immediately afterward, provides constant fuel to feed bacteria, which leads to plaque development and tooth decay.

Plaque is the soft, sticky layer of bacteria that forms on teeth and needs to be removed every day to help prevent tooth decay and gum problems. Proper tooth brushing results in adequate removal of plaque and helps in the prevention of dental diseases such as dental caries.

As there is a rise in the number of dental problems in children, the current study was undertaken to find out the relation between their awareness regarding oral rinsing, snacking, brushing habits and dental caries status among school going children.

II. METHODOLOGY

This study was carried out on 250 children in 3 schools of Nellore town, AP using convenience sampling method to assess the awareness of rinsing, brushing and snacking habits among school children. The study was performed for 6 weeks (November 2017- December 2017) after obtaining the permission from the college ethical committee and school authorities.

The study purpose was explained to the headmaster of each selected school. Children between 9-12 years age having signed parental consent were included in the study. Subjects with acute infections of the oral cavity and medically compromised children were excluded from the study.

A questionnaire containing 13 questions related to oral health practice, oral health knowledge, and usage of dental services including demographic datawas designed to obtain the necessary information. To give knowledge scores, each positive answer was coded with 1 pointwhile negative answers 0. Children who scored 5 to 8points were considered as 'average', below 5 points 'poor' and above 8 points were considered as having 'good' knowledge. The questionnaire was in English language and completed in an interview format with the investigator asking the questions to the participants.

Oral examination of children was carried out visually under natural light using plain mouth mirrors and CPI probes; no radiographs/ trans illumination were used (ADA Type- 3 examination)[4]. Dental Caries was recorded using deft index and DMFT Index for primary and permanent dentitions, respectively. A single calibrated examiner conducted the clinical examination (r=0.78).

The data obtained was subjected to statistical analysis using statistical package of social sciences (SPSS version 15; Chicago Inc., USA). Chi- square test was used and significance level was set at P < 0.05.

Oral Hygienic Habits	Child response (n)	Percentage (%)
Mouth Rinsing with water		
Yes	219	87.6%
No	31	12.4%
Frequency of Rinsing		
Once	118	47.2%
Twice	43	17.2%
Every Meal	86	34.4%
Occasionally	3	1.2%
Duration of Rinsing		
30 seconds	84	33.6%
1 minute	119	47.6%
2 minutes	47	18.8%
Keeps mouth clean		00.004
Yes	202	80.8%
NO Don²t linou	18	7.2%
	30	12%
The frequency of intake of sugared snacks	15	1904
Occasionally	35	10%
Once/ twice per day	131	52 /1%
Greater than three times per day	30	15.6%
Sugared snacks damage the tooth	57	15.070
Yes	176	70.4%
No	38	15.2%
Don't know	36	14.4%
Frequency of brushing		
Once daily	127	50.8%
Twice daily	106	42.4%
Thrice daily	6	2.4%
Occasionally	11	4.4%

III. RESULTS Table 1: Oral hygienic practices among school going children.

Duration of brushing		
1 minute	22	8.8%
2 minutes	58	23.2%
3 minutes	132	52.8%
Greater than 3 minutes	38	15.2%
Brushing material		
Toothpaste + Brush	235	94%
Tooth powder + Brush	5	2%
Toothpaste + Finger	8	3.2%
Tooth powder + Finger	2	0.8%
Brushing technique		
Horizontal only	154	61.6%
Both Horizontal and vertical	83	33.2%
Circular	12	5 20/
	13	3.2%
Dental visit till now	112	11 90/
No.	112	44.070
110	138	55.2%
Dental check-up		
Once in 6 months	86	34.4%
Once in a year	73	29.2%
If there is dental pain/ problem	91	36.4%
Oral hygiene, dietary instructions by		
Parental guidance	125	50%
School dental health programme	83	33.2%
Dentist	42	16.8%

The prevalence of dental caries in the study population was 36.8%. 87.6% of children had the habit of mouth rinsing after meals with low caries prevalence. Majority of children (80.8%) had the knowledge that rinsing with water keeps the mouth clean. 70.4% children said that sugared snacks could damage the teeth. 52.4% of the children understand that the frequency of intake of sugared snacks once or twice per day. Brushing twice daily was reported by 42.4% of children.A higher percentage (94%) of the students practiced brushing with toothbrush & paste and 33.2% of the students knew the correct brushing technique. 44.8% participants visited the dental clinic & the most common reason for the dental visit was dental pain/ problem (36.4%). Most of the children got oral hygiene and dietary instructions by parental guidance (table 1).

Tuble 2. Trevalence of Dental curres in relation to Oral Heatin Knowledge (Orig							
ОНК	Caries Present n (%)	Caries Absent n (%)	Total n (%)	P- value			
Poor	13 (5.2%)	12 (4. 8%)	25 (10%)				
Average	61(24.4%)	109 (43.6%)	170(68%)	0.2302(NS)			
Good	18(7.2%)	37(14.8%)	55(22%)				

Table	2: Prevalence	of Dental	caries in	relation	to Oral H	ealth Kno	owledge (O	HK)

P<0.05 significant;	Chi-	square	value=	2.9373
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68% had average oral health knowledge (OHK), 22% good knowledge and 10% had poor knowledge. Children with average oral health knowledge had low caries experience, there was no statistically significant association between oral health knowledge and caries status(table 2).

Table 5: Wean deft +/DWFT based on Knowledge levels						
OHK	dt+/DT	et +/ MT	ft +/FT	deft +/DMFT		
Poor	1.69 ± 1.18	0.5 ± 0.70	1.5 ± 0.70	2.07 ± 1.60		
Average	1.8 ± 1.11	1.66 ± 0.57	1.85 ± 1.46	2.2 ± 1.61		
Good	2.66 ± 1.39	0.5 ± 0.70	1 ± 1.41	3.27 ± 1.61		
Total	2.01 ± 1.24	1.33 ± 0.52	2.09 ± 1.51	2.46 ± 1.72		

Table 3: Mean deft +/DMFT based on Knowledge levels

The mean deft+/ DMFT score was high in children with good knowledge, compared to average knowledge (table 3).

Table 4: Wean delt+/ DMF T based on Gender distribution.						
Gender	dt+/ DT	et +/ MT	ft +/FT	deft +/DMFT		
Male	2.06 ± 1.33	1.33 ± 0.57	1 ± 0	2.34 ± 1.71		
Female	1.92 ± 1.15	1.5 ± 0.70	2 ± 1.30	2.44 ± 1.56		

Table 4:Mean deft	+/ DMFT based on	Gender distribution.
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Table 5: Denta	al caries Prevalence	e based on Or	al Health Kn	owledge(OHK)	and Gender
Table 5. Dente	in carres r revalence	c based on Or	ai iicaitii isii	ownedge (Omis)	and Ochuci

Gender	Poor n (%)	Average n (%)	Good n (%)	Total n (%)	P- value
Male	14 (10%)	100(71.4)	26(18.5%)	140(56%)	
Female	11(10%)	70(63.63)	29(26.26)	110(44%)	0.3246(NS)
Total	25 (10%)	170(68)	55(22)	250 (100%)	

P<0.05 significant; Chi- square value= 2.2502

Females had good oral health knowledge and low caries compared to males even though it was not statistically significant (Table 4 & 5).

IV. DISCUSSION

Dental caries is the most common among the spectrum of oral diseases and is still a significant public health problem in developing countries. In India, the trend indicates an increase in dental caries especially in childhood[1]. The reason could be mainly the increased consumption of refined carbohydrates such as cakes and candies.

Children of all age groups are affected by dental caries, most of which can be treated by restorative care and some may need extensive treatment. As the treatment options are not only expensive but also demanding for the child, the best option is prevention. Oral diseases could be prevented if children have adequate oral health knowledge.

Regarding oral health knowledge, 68% of the children had average knowledge. The mean deft+/ DMFT score was high in children with good knowledge compared to average knowledge which might be due to initiation of caries before acquiring oral health knowledge.

In this study, females had better oral health knowledge scores than males which is in agreement with most of the similar studies[5, 6, and 7]. It could be due to that females usually have more concernabout hygiene and appearance. In another study from Iran, it was reported that females had significantly higher frequencies of tooth brushing, toothpaste use compared tomales[8]. Contrary to the present study, in some studiesmales had shown substantially higher knowledge scores compared to females [9, 10]. This inconsistency in results may be explained by cultural and social differences.

Mouth rinsing with water after meals is a common practice in Indian culture, but nowadays children are not following this. It not only clears the remaining food material but also flushes out some of the microorganisms from the oral cavity along with the acids produced by them. So we should educate the children regarding the rinsing habits along with brushing habits. Winner JJ et al. reported that 67% of the parents have noted to make their kids swish and spit with water after every meal[11].In the current study, only 34.4% of children had the habit of mouth rinsing after every meal which is showing decline in our good cultural trends.

Children who knew that rinsing keeps mouth clean, caries was low compared to children who did not know about the purpose of rinsing.Surprisingly, children who rinse for 30 seconds had low caries compared to children who rinse for one/two minutes. It shows that how affectively children are rinsing the mouth is much important than the duration of rinsing.

In children who knew that sugar snacks damage teeth, caries was low compared to children who were without that knowledge. If thikar A et al [12]also suggested that young children with poor dietary habits consuming snacks frequently were more likely to develop caries as compared to children with no snacking habits. It is noteworthy that children who used to take sweets for more than three times a day had low caries. When we cross verified the rinsing habits in these children, many of them had the habit of rinsing the mouth with water after eating sweets which shows the importance of rinsing in controlling caries.

In this study, the commonly used materials for cleaning teeth were toothbrush and paste. Children who brushed teeth twice daily for 3 or more than 3 minutes had low caries compared to children who brushed just for 1 or 2 minutes.

Considerable number of children had never been to a dentist in the present study. According to Kamran A et al [13], in relation to attitude toward professional dental care, majority of the participants were found that they visit dental clinic only when they have dental pain however comparatively few number of participants has reported that dental check-up should be for every six months. The study by Al-Omiri et al. also noted that pain is the main driving factor for children to visit the dentist [14].

Caries prevalence was 36.8% in the studied population and it was observed that poor oral health knowledge contributes major role in the prevalence of dental caries. Most of the people are not paying attention

to the treatment of caries especially for primary teeth. So, parents and children should be motivated regarding this aspect.

Small sample size could be a limitation of the study; also we have not evaluated the condition of dentition regarding alignment and spacing which could be a caries risk factor. Longitudinal studies are recommended in the future to study the influence of oral health knowledge on oral health status.

V. CONCLUSION

Overall, the awareness of oral hygienic habits among the studied population was average. Caries prevalence was morein children with good awareness which might be due to gaining oral health knowledge after initiation of caries. This shows the importance of acquiring oral health knowledge at an early age. So, we should educate parents as well as the children regarding the healthy habits by conducting periodic health educational activities regularly.

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