

Knowledge & Practices of Oral Health among Secondary School Students in Visakhapatnam City

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Abstract:

Background: Oral health is essential to general health and quality of life. It is a state of being free from chronic mouth and facial pain, oral and throat cancer, oral sores, gum disease, tooth decay and loss etc. Risk factors include unhealthy diet and poor oral hygiene. Worldwide, 60–90% of school children have dental cavities. Oral health knowledge is considered to be an essential prerequisite for health-related practices in school children.

Methods: A cross sectional study was conducted among secondary school students aged between 12 to 15 years studying in 8th, 9th and 10th classes in a government school in Visakhapatnam city. All the 117 students of 8th, 9th and 10th class present on the day of study were interviewed. Objective was to determine the oral health knowledge & practices and to assess their oral health status. A semi-structured questionnaire was used to gather information on socio-demographic characteristics, knowledge and practices. Analysis was based on a score given to each question. WH Ooral health assessment form for children 2013 was used to assess oral health status.

Results: Average age of the study population was 13.9 years. Most (93.16%) of the children belong to low income group. Majority (97%) of the students had fair knowledge about oral hygiene. Regarding practices, all were using tooth brush however only 43.58% were brushing 2 times a day. Majority (98.29%) change their tooth brush every 3 months. On examination dental caries was seen in 22.22 % & Gingival bleeding was found in 14.52 %.

Conclusion: Knowledge on oral health is fair but practices followed are not satisfactory. There is an urgent need to enhance oral health practices at an early age by integrating oral health into the school curriculum.

Key words: Knowledge, oral hygiene, school students, toothbrush, Visakhapatnam.

I. Introduction

Oral health is essential to general health & quality of life. WHO defines oral health as ‘a state of being free from chronic mouth & facial pain, oral & throat pain, oral & throat cancer, oral sores, birth defect such as cleft lip & cleft palate, gum disease, tooth decay & tooth loss & other diseases and disorders that affect the oral cavity. Risk factors include unhealthy diet, tobacco use, harmful alcohol use & poor oral hygiene (1).

Children who suffer from poor oral health are 12 times more likely to have restricted activity days than those who do not (2). More than 50 million school hours are lost annually due to oral health problems, which affect children’s performance at school & success in later life (3). Although knowledge contributes to good oral health but unless attitudes & habits are developed & put into practice little will be gained. Healthy behavior & lifestyles developed at a young age are more sustainable. In many industrialized countries a significant improvement in oral health among children & adolescents especially with respect to dental caries has been witnessed in the last 2 decades (4). Therefore this study was conducted to assess the knowledge and practices of school children toward oral health as these are considered the formative years of life and also to assess their present oral health status.

II. Materials & Methods

A cross sectional study was conducted among secondary school children of 12 to 15 yrs during the month of January & February 2015. All the government secondary schools in Visakhapatnam under Greater Visakha Municipal Corporation were listed, of which one school was selected randomly. Permission to carry out the study was obtained from the Principal of the school. Students who attended on the day of the visit and were willing to participate were included in the study. Total of 117 students were interviewed using a pretested questionnaire. Score was given to various responses given to each question on knowledge & practice. Based on the total score obtained by the participant, knowledge was categorized as good, fair and poor. Modified WHO oral health assessment form for the age of 12 to 15 yrs, was used for assessment of status of oral cavity. Examination of the oral cavity was done under natural illumination using Oral cavity examination tools such as tongue depressor and plain mouth mirrors. DMFT (Decayed Missing Filled Teeth) score was calculated based

on the presence of dental caries, missing or filled tooth. Those students who were suffering from systemic illness were excluded from the study. Statistical analysis was done using MS Excel.

III. Results

A total of 117 students were interviewed in the study. There were 44.44% males & 55.55% females among the study population. Mean age of the study population was 13.9 years. About 93.16% of the students belong to families below poverty line & had white ration cards. Regarding the literacy status of the parents, about half (54.70%) of the mothers and 38.46% of the fathers of these students were illiterates. Only 5.12% of mothers & 1.7% of fathers studied till intermediate. Regarding occupational status of the parents 35.89% of the mothers & 29.05% of the fathers were unskilled workers.

The overall knowledge on oral hygiene (as per the scores obtained,) was found to be good only in 2% of the study group, 97% had fair knowledge & 1% had poor knowledge on oral hygiene. About 9.40% of the study population was aware of the importance of dental checkups. Only 4.27% knew the correct method of brushing. Around 88.88% & 96.58% respectively were aware that soft drinks & sugary diet affect their oral health. 70.08% were aware that bleeding from gums is an indicator of poor oral hygiene. Very few of them (5.98%) mentioned about the requirement of fluoride for preventing mottling of enamel and 3.41 % of students knew about methods to keep the gums healthy.

Regarding practices, only 43.58% of the study population brush their teeth twice daily. It was found that 98.29% of them changed their brush regularly once in 3 months. But, only 16.23% of them went for regular dental check-ups. None of the study participant had the habit of using any tobacco or tobacco related product such as gutka, pan masala etc. However 46.2% of children were having the habit of taking soft drinks/ sugary diet more than once in a week.

The mean DMFT (Decayed Missing Filled Teeth) score of the study population was 0.29. The major contribution in DMFT score was by decayed teeth. DMFT score of the study population.

DMF score/ teeth index for population	
Mean DMF score	= $\frac{\text{total DMF}}{\text{total number of subjects examined}}$
Mean DMF score = 0.29	

On examination of the oral cavity (tab.3) it was found that the overall prevalence of gingivitis among the study group was 14.52%. 26.49% had very mild enamel fluorosis, 21.36% had mild fluorosis and 3.41 % had moderate fluorosis. 22.22% of the study group had at least one caries tooth. Enamel fluorosis (whitish/yellowish spots) was seen in 77.77% of the children.

Table 1: Knowledge of students regarding oral hygiene

Knowledge Variable	Students who gave Correct Response
Importance of Dental Visits	11(9.40%)
No. of times one should brush a teeth	106(90.59%)
Correct method of Brushing Teeth	5(4.27%)
Usage of tooth paste with Flouride	7(5.98%)
Bleeding from gums is an Indicator of Poor Oral Hygiene	82(70.08%)
Sugary Diet affected Oral Health	113(96.58%)
Soft drink affected Oral Health	104(88.88%)
Yellowish Discoloration is a problem which need treatment	51(43.58%)
Smoking /use of tobacco alter oral health	117(100%)

Table 2: Oral Hygiene Practices among study population

Practices	Number (%)
Brushing twice a day	51 (43.58%)
Changing tooth brush in 3 months	115 (98.29%)
Regular dental checkup	19 (16.23%)
Never visited a Dentist	97 (82.90%)
Taking soft drinks/sugary diet more than once a week	54 (46.2%)

Table 3: Findings of oral cavity examination

Dental/oral Condition	Results				
Dental caries	No. of students presenting with at least one caries tooth		Total no. of caries/decayed tooth /missing /filled tooth		
	26 (22.22%)		35		
Gingival bleeding	Present		Absent		
	17 (14.52%)		100		
Enamel fluorosis	Normal	Questionable	Very mild	Mild	Moderate
	(score=0)	(score=1)	(score=2)	(score=3)	(score=4)
	26 (22.22%)	31 (26.49)	31 (26.49%)	25 (21.36%)	4 (3.41%)

IV. Discussion

It is observed from this study that most of the children in the school going age do not have comprehensive knowledge on oral hygiene. Study by Priya M et al also reported the overall knowledge to be low. It is understood that, majority of them are aware of only certain facts concerned with oral health which again is not translated into practice. Such as only 43.58% were brushing their teeth twice a day although majority (90.59%) knew that brushing must be done twice a day. Similarly only 4.27 % knew about the correct method of brushing. V.I.Kuppuswamy et al and Priya M et al also reported that less percentage of children were actually brushing their teeth twice in a day (17% and 38.3% respectively)(5)

The practice of use of tooth paste is now common in the community, however only 4% of the students knew about the use of fluoride consisting tooth paste which is helpful in protecting the enamel and preventing mottling. Study by Veera Reddy et al also reported that 92% of the population in their study were not aware of requirement of fluoride in the toothpaste.(6)

Bleeding from the gums is an indicator of poor oral hygiene. As it is observed that 70.08% know that bleeding from gums indicates poor oral hygiene and only 3.41% of children actually knew about how to keep up gums healthy. Study done by Priya et al showed that 35.60% knew that bleeding gums is due to inflammation & 31.1% knew that regular tooth brushing & flossing would help them. In another study done by Mohamed Eisalhy more than 60% were unaware that bleeding gums is a sign of disease & that it requires management.(7) One key factor in maintaining oral health is having regular dental check up and identifies any dental/gum problem at the earliest. However the common practice in the community is visiting a dentist only when a dental problem arises. In this study, only 16.23% of the study population went for regular dental check-ups, 82.90% had never visited a dentist. This finding is similar to that reported by other studies. Study by AG Harikiran et al also reported that fear of dentist was main cause of irregular visits in 46.1% of the students.(8) In the present study also fear of the dentist was the main cause of low dental visits. As the participants were mainly from lower social economic strata, it can also be considered that the high cost of dental treatment might have limited the accessibility of dental care.

Conditions such as dental caries, inflammation of gums and mottling of enamel due to deficiency in flouride content are important findings in childhood which may have impact on the dentition, nutrition as well as cognitive development. In present study, the prevalence of gingivitis was found to be 14.52% & that of fluorosis was 77.77% and 26 students (22.22%) were found to be having at least one caries tooth. However a study by Dhar et al found a high prevalence of gingivitis (84.37%) as compared to flurosis (36.36%) (9) The mean DMFT score of the present study population was found to be 0.29. Whereas higher DMFT score was reported by other studies. In a study conducted by JR Sukhaboghi et al with a sample of 604 children the DMFT score was found to be 0.6. In another study done by Sharma et al the DMFT score was 0.89 for a sample of 534 students. David et al reported a DMFT score of 0.5 for 838 students.(10)

V. Conclusion

Children lack in-depth and comprehensive knowledge about oral hygiene & practices. High prevalence of dental caries and enamel fluorosis (whitish/yellow spots) was seen among school children which needs to be addressed immediately. Topics on oral health & hygiene can be incorporated in the curriculum. School teachers should emphasize more on oral Health care and hygiene as they play a major role in developing the student's personality.

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