

Oral Hygiene Status, Knowledge, Attitude and Practices of Oral Health Among School Going Rural Children Of Paderu Mandal, Visakhapatnam District.

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Abstract: This study is aimed to evaluate the knowledge, attitude and practices of rural children towards oral health and dental care as well as to assess the oral hygiene status among them. Children studying in Andhra Pradesh Tribal welfare Residential Schools were included in the study. The children completed an interview to evaluate knowledge and attitude. Oral hygiene Status was measured using the oral hygiene index **Results:** Children were aware about caries as one of the common problem associated with mouth and teeth and only few students were aware of gum diseases. Though 61% children were aware that sweets and chocolates cause dental problems 34% were unaware of how these problems could be prevented. Oral hygiene habits of the children were found to be irregular and children consulted the Dentist only when there was pain. Teachers played an important role than parents. The Oral hygiene status was good and the proportion of children who had caries was 254 (53%) **Conclusion:** The results of this study indicate the children's knowledge on dental health is poor. Children's parents and teachers attitude towards oral health and dental care need to be improved. Oral health educational programmes for rural school children, their parents and school teachers are recommended.

Key words: Oral hygiene, Knowledge and attitude, rural children

Date of Submission: 14-07-2018

Date of acceptance: 30-07-2018

I. Introduction

Knowledge acquisition involves complex cognitive processes: Perception, Learning, Communication and association and reasoning. Knowledge as defined by 'Oxford Dictionary' is the 'expertise and skills acquired by a person through experience or education'. Attitude is an acquired characteristic of an individual. Children demonstrate a wide variety of attitudes towards teeth, dental care and dentists. These attitudes naturally reflect their own life situations and they strongly influence the oral health behavior.¹ Improving oral health in the rural school children is still a dream come true in a developing country like India. For adults the impact of social class on oral health care has been documented through several oral epidemiological studies especially with respect to dental caries and periodontal disease.² Health behavior as defined by Steptoe and colleagues is the 'activities undertaken by the people in order to protect, promote or maintain health and to prevent disease.'^{3,4,6,20}

Sadly what is termed the 'inverse care law' is all too prevalent in dentistry-deprived communities that suffer the most and so have the most need, receive the fewest resources⁸.

The disadvantaged social groups have a higher portion of teeth or tooth surfaces with unmet need for treatment when compared to the advantage population. This pattern is the same with the child population also, where the proportion of children aged 12 and 15 with any known dental decay was higher among low social class⁵. This holds very much true in a country like India where majority of the Indian population (70-72%) live in the rural areas, of which more than 40% children (as per census of 1991)¹¹. These children tend to be more vulnerable to dental diseases due to social, economic and demographic factors like lack of awareness, lack of transportation, limited access to professional dental care, lack of perceived need for dental care.^{5,6}

II. Aims And Objectives

- To evaluate the awareness and knowledge among rural children on dental health problems their oral hygiene practices and pattern of practices of dental treatment.
- To assess their oral hygiene status and to find out the proportion of children affected with caries.

III. Methodology

The study was a cross-sectional study. Convenient sampling was done. On the day of screening all children aged 12-15 years (n=480), who attended Andhra Pradesh Residential Tribal welfare Government school in a village of Paderu Mandal, Visakhapatnam district were included in the study. These children come to this school from various village situated all around the school thus representing a fairly good geographical area of study. A written consent was obtained from the school authorities before the commencement of the study. The knowledge and attitude of the children was assessed by using a pretested interview schedule. The children were then subjected to dental screening in an ordinary chair in broad daylight facing away from sunlight to detect clinically evident caries lesion and oral hygiene status. Oral examination was carried out using mouth mirror and explorer. Oral hygiene status was measured using the OHIs (Green and Vermillion index).^{7,9,10,13}

The study was approved by the Institutional Ethics Committee of Gayatri Vidya Parishad IHC & MT, Visakhapatnam.

IV. Results

A total of 480 children with a mean age of 13 years were screened. Of these 250 were males (52 %) and 230 were females (48 %).

Oral Hygiene Practices

Various questions were asked regarding the oral hygiene practices, such as how teeth are cleaned, what material is used to clean the teeth, etc. The results indicated that only 398 (83%) children are using brush while the rest 82 (17%) are using fingers to clean their teeth. It was seen that 414 (86%) children are brushing only once a day and only 66 (14%) brush twice- daily. 432 (90%) children are using tooth paste and 31 (6%) are using tooth powder to clean their teeth. The rest use Neem Stick 17 (4%) with any abrasive material like chalk powder, sand and charcoal. Of the 398 (83%) who used the brush, 327 (68%) of children change their brush only when it gets worn out, 101 (21%) change every six months and 22 (5%) change between 3-6 months. 30 (6%) children were not aware of how often to change their tooth brush. 364 (76%) answered that they never rinse their mouth after eating while 107 (22%) children rinse sometimes and 8 (2%) rinse always (Table 1).

Pattern of Practices for Dental Treatments

293 (61%) of the children reported that they had suffered from some form of dental problem in the last one year and 10 (2%) children were not aware as to whether they had experienced any dental problems. Of the 293 children who had a dental problem, only 142 (48%) consulted the dentist and pain was main factor for these children to consult the dentist. Among the rest 151 children, no pain (33 children), parents did not take them to a dentist (15 children) and the treatment center located faraway (103 children) were the reasons given for not resorting to any treatment .

Table 1. oral hygiene practices among the study population

	Frequency	percentage (%)
How do you generally clean your teeth		
Brush	398	83%
Finger	82	17%
Brushing intervals		
Once	414	86%
Twice	66	14%
After every meal	0	0%
Material used to clean teeth		
Tooth paste	432	90%
Tooth powder	31	6%
Others	17	4%
Frequency of change of brush (n=480)		
When it wears out	327	68%
Every 6 months	101	21%
Between 3-6 months	22	5%
Don't know	30	6%
Mouth rinsing after eating		
Never	364	76%
Sometimes	107	22%
Always	8	2%

Table 2. pattern of practices for dental treatment among the study population

	Frequency	Percentage (%)
Teeth problems faced in the past 1-year(n=480)		
Yes	293	61%
No	177	37%
Don't know	10	2%
If yes did you consult the Dentist(n=293)		
Yes	142	48%
No	151	52%
Reasons for not consulting Dentist(n=151)		
No pain	33	22%
Parents did not take	15	10%
Treatment center far	103	68%

Awareness and knowledge of Dental health problems

On questioning about the common problems associated with mouth and teeth, it was seen that 254 (53 %) children were aware about decay. 10 (2 %) were aware about gum disease. Other problems like, pain 14 (3%), bad smell 24 (5 %) stained teeth 19 (4 %) and crooked teeth 5 (1%) was less known by the children. The number of children who were unaware of the common problems associated with mouth and teeth were 149 (31 %).

Children's opinion on the major factors that cause dental problems revealed that, 287 (61%) were aware that eating sweets and chocolates can cause dental problems. 71 (15%) told that not brushing regularly can be one factor and 15 (3%) said germs can cause dental problems. Some of the children were aware that tobacco products 11(2%) can cause oral problems, 91 (19%) children were not aware of the major factors that cause dental problems.

With regard to the prevention of dental problems, 235 (49%) children informed that avoiding sweets and chocolates will prevent dental problems, only five students (1%) knew about the importance of visiting a dentist regularly. 58 (12%) children were aware that by regular brushing of teeth, gargling after taking food 14 (3%) dental problems can be prevented by not consuming tobacco products 5 (1%) and 163 (34%) children were unaware on how they can prevent dental problems (table 3).

Source of information

Teachers 216 (45%) were an important source of information to the children, followed by parents 134 (28%), and then by TV 38 (8%), books 58 (12%) news paper 24 (5%) and Radio 10 (2%)

Assessment of oral hygiene status and Dental caries

Oral hygiene status was measured using the OHIs. The oral hygiene status was found to be fair (OHIs-1.42) among these children. The debris index was more (DI=1.02) when compared to the calculus index (CI=0.40) The proportion of children who had clinically evident caries was 53% (254 children out of 480 children).

Table 3 knowledge and Awareness of Dental Health problems (n=480) among the study population

	Frequency	percentage (%)
Common problems associated with mouth and teeth		
Tooth decay	254	53%
Gum disease	10	2%
Bad smell	24	5%
Crooked teeth	5	1%
Mouth ulcers	5	1%
Stained teeth	19	4%
Pain	14	3%
Don't know	149	31%
Major factors that cause dental problems		
Eating sweets and chocolates	287	61%
Not brushing regularly	71	15%
Not rinsing	5	1%
Consuming tobacco products	11	2%
Germs	15	3%
Don't know	91	19%
How can you prevent dental problems?		
Avoiding sweets and chocolates	235	49%
Regular brushing of teeth	58	12%
visiting dentist	5	1%
Not consuming tobacco products	5	1%
Gargling after taking food	14	3%
Don't know	163	34%
Where did you get this information from?		
Parents	134	28%
Teachers	216	45%
Books	58	12%
Tv	38	8%
Radio	10	2%
News paper	24	5%

V. Discussion

In the present study 83% children were using tooth brush and 17% of children were using fingers to clean their teeth. The percentage of children using tooth brush was less when compared to the study done by WHO, in a rural population in Uttaranchal state where 86% of the children used.¹² This can be because the children of this present study come from a very low socioeconomic background and affordability plays an important role. some children used charcoal, sand or chalk powder as a medium to clean their teeth. This holds true with the study done by Mahesh kumar et al¹⁴ in Chennai, where in their study population also children resorted to the use of charcoal as a medium to brush their teeth.

Further, it found that only 14% of the children brush twice-daily. This finding is very much less when compared to the study by Harikiran et al,¹⁵ where it was 38.5% and WHO study where it was 49%.¹² The study revealed that children (68%) change their tooth brush only when it gets worn out and childrens practice on rinsing their mouth after every meal needs to be improved.

Children who were experiencing some form of dental problem in the one year visited the dentist/or were taken to the dentist by their parents only when symptoms of pain was their and this showed that pain is the main factor for these children to visit the dentist. study by Al-Omiri et al¹⁶ has also proved in their study that pain is the main driving factor for children to visit the dentist.

Only 69% of the children were aware of the common problems associated with mouth and teeth. The children were more aware about caries than periodontal conditions. This finding is similar to the study done by Al-Omiri et al^{16,19}. Though 61% children were aware that sweets and chocolates cause dental caries they were not aware of the other major factors that cause dental problems. Some of the children had idea regarding that; chewing tobacco can cause dental problems. Awareness and its consequences need to be stressed to children; 20% of children were unaware on how they can prevent dental problems .Overall, the level of oral health knowledge among the surveyed children was low¹⁸.

The study revealed that teachers played an important role to create awareness on dental health among children. This was in contrast to the study done by Harikiran et al¹⁵ where the participants received most information from television.

The oral hygiene status was found to be fair (OHIs-1.42) in these children. The debris index was more (DI=1.02) when compared to the calculus index (CI=0.40). This finding is similar to the study done by Sogi et.al¹⁷ The proportion of children who had caries in this group was 38%.

Limitations of the study: Owing to lack of personnel and budget, this study was done in this rural area by resorting into convenient sampling method.

VI. Conclusion

Attitudes are not learnt from books; they are acquired by social interaction, so the responsibility to develop healthy attitudes depends upon parents, teachers, religious leaders and elderly in the society. The change to healthy attitude and practice can be occurred by giving adequate information, motivation and practice of the measures to the children. The Oral hygiene habits, Oral health awareness and Knowledge level among rural school going children needs to be improved. Parents and teachers need to be informed, motivated about dental care so that their attitudes change. School Based Dental Health Education Programs in rural school children including parents and teachers is Recommended

Acknowledgements

I would like to express my Sincere gratitude to Prof P.Soma Raju Garu Secretary GVP IHC & MT and Prof P.V.Sarma Garu for giving me an opportunity to work with wonderful people and Professionals.

My Deepest Thanks to Dr D.V.S.S.Rama Murthy garu Dean GVPIHC & MT and Dr A.Ranga Rao Garu Vice Principal GVPIHC & MT for providing their invaluable guidance, Comments and Suggestions throughout the Study.

I would like to Thank my colleagues Dr A.Deepika Dr VVD Prasad and N.Hanumanth Statistician for their Constant encouragement and support during the study

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“Oral Hygiene Status, Knowledge, Attitude And Practices Of Oral Health Among School Going Rural Children Of Paderu Mandal, Visakhapatnam District..”IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 7, 2018, pp 49-53.