IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 15, Issue 5 Ver. V (May. 2016), PP 62-65
www.iosrjournals.org

A Comparative Study of Oral Health Status between the Selected Urban and Rural School Children in Wardha District.

Deepti Chandrakar[1], Meenakshi Khapre[2], Manish Prasad[3], Abhay Mudey[4], Vasant Wagh[5],

1 Master of Public Health (MPH), 2 Associate Professor, 3 Assistant Professor, 4 Professor and Head, 5 Professor, Department of Community Medicine, Jawaharlal Nehru Medical College, Sawangi (M), Wardha

Abstract: *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. Shedding of deciduous teeth and eruption of permanent teeth is a very critical stage because if caries occur during this stage. It can cause permanent hazard to permanent teeth, which is very much necessary for person to eat food. Therefore this study had been done with the objective to compare the oral health status between the selected urban and rural school children in Wardha district. The study was conducted in the selected schools of Urban and Rural area of Wardha district. 1 School from Urban area and 1 from rural area were selected. 100 sample size was chosen for the study. A closed ended questionnaire adopted from World Health Organization (Oral Health Assessment for children) was used as a data collection tool. It was modified as per the need of the study. Overall 136 children never complained of any toothache experience. 133 children cleaned their teeth once a day. 67 children cleaned their teeth twice. Oral hygiene status of children was overall good. More toothache was observed in urban area than in the rural area.*

Keywords: *Oral Hygiene, Dental Health, Oral Health, Rural Area, Urban Area, School Children*

I. Introduction

Dental caries is the major oral health condition in developing countries, affecting 60-90% of the school children and the vast majority of adults (The World Oral Health report 2003) In India, the prevalence of dental caries is reported to be 50-60%.(1) In a study done in Vidarbha region of Central India by Kalaskar RR (2015) it was observed that out of a total of the 3960 children (boys - 1980 and girls - 1980) were examined from 11 districts of Vidarbha region in the age group of 6-16 years. The prevalence of dental caries in Vidarbha region of central India was found to be 65.70%. Among the 11 districts of Vidarbha region, Yawatamal district showed the highest caries prevalence (86.11%) whereas Gondia district showed lowest caries prevalence (40.83%) (2). India exposes disparities in oral health, with lower income groups having higher disease rates, limited or no access to care. Dentist: Population ratio in the rural areas to be dismally low with less than 2% dentists being available for 72% of rural population. Statistics present the grim reality, that 95% of the population in India suffers from gum disease, only 50% use a toothbrush and just 2% of the population visit the dentist. This sounded an alarm and the need for a blueprint, one that would be a tool for sustained effort. National Oral Health Programme was therefore initiated to accurately assess needs, monitors outcomes, decreases disparities, improves access to care and ultimately improves oral health. (3) Though many studies were conducted in school, we could found very few on rural children. Considering the hypothesis that rural children are more prone to development of caries than urban children here we tested it and what different factors that make rural children, more vulnerable has to be evaluated. During mixed dentition period oral hygiene is very poor because of care free age, emotional stresses of the child, frequent intake of refined sugars, fast foods and soft and sticky foods. Among the dental diseases, dental caries is an important dental public health problem in India which is irreversible in nature and is predominantly a disease of childhood. Till date very less studies were carried out on this topic in Wardha. The result of this study should stimulate further work to evaluate the organization and planning of public dental services, contributing to the improvement of dental care for school children.

Objective

To compare the oral health status between the selected urban and rural school children in Wardha district.

II. Materials and Methods

The study was conducted in the selected schools of Urban and Rural area of Wardha district. 1 School from Urban area and 1 from rural area were selected. Those who gave consent and 6-12 years age group were included in the study. Those who were physically or mentally challenged were excluded from the study. A cross

sectional study was carried out among 100 school children age 6-12 yrs in one rural and one urban school at Wardha district. With the help of dental probe and a mouth mirror the presence of dental caries was examined in the presence of natural daylight in sitting position. Related factors which predispose caries such as age, sex and dietary pattern was recorded. Considering the drop-out rates of 10%, additional 10% were added to it. Thus sample size became 82.5 and hence 100 study subjects were decided for the study purpose. Schools were approached and a line listing of all the students under age of 6 to 12 years was done. 100 students of each school were randomly selected in rural school and then they were matched for similar representation in the urban area. Those students who were found co-operative than other students from the same list were selected. A closed ended questionnaire adopted from World Health Organization (Oral Health Assessment for children) was used as a data collection tool. It was modified as per the need of the study. Questions were asked in local language with the help of translator according to the respondent's convenience. After explaining the purpose of the study, written, informed consent was obtained from each student's parents prior to the data collection. Parents were assured about full confidentiality of information and its intended use for research purpose only. The study protocol was approved from Institutional Ethics Committee of JNMC Wardha. Data thus obtained was entered in the Microsoft Excel sheet and further analyzed by SPSS 16.0 software. Data was presented in the form of tables.

III. Result

Table1 Distribution of data according to Toothache in last 12 month

Toothache in last 12 month	Area				
	Rural n=100	Percent	Urban n=100	Percent	Chi sq=3.309 df=1 P=0.689 NS*
Yes	26	26.00%	38	38.00%	
No	74	74.00%	62	62.00%	
Total	100		100		

* S= Significant, NS= Non significant

The above table shows that in rural area toothache was reported by 26.00% and in urban area it was reported by 38.00% participants. The comparison on Chi square test was observed to be non significant.

Table 2 Distribution of data according to visiting a Dentist in last 12 month

Visiting a dentist in last 12 month	Area				
	Rural (n=100)	Percent	Urban (n=100)	Percent	Chi sq=10.66 df=1 P=0.001 S*
Yes	15	15.00%	35	35.00%	
No	85	85.00%	65	65.00%	
	100		100		

*S= Significant, NS= Non significant

15.00% participants in the rural area reported visiting a dentist and 35.00% visited a dentist in the urban area. The comparison on chi square test was observed to be significant.

Table 3 Cleaning teeth

Cleaning Teeth daily	Area				
	Rural (n= 100)	Percent	Urban (n=100)	Percent	Chi sq =14.02 df=1 P=0.0001 S*
Once a day	79	79.00%	54	54.00%	
Twice a day	21	21.00%	46	46.00%	
	100		100		

S= Significant, NS= Non significant

All the participants reported brushing their teeths daily, both in the rural and urban area. In the rural area only 21% were found to brush teeths twice a day whereas in the urban area 46% participants cleaned teeths twice a day. The comparison on chi square test was observed to be significant.

Table 4 Brushing materials used for cleaning teeth

Materials used for brushing teeth	Area				Yates Chi sq =6.722 df=1 P=0.0095 S*
	Rural (n=100)	Percent	Urban (n=100)	Percent	
Toothbrush	84	84.00%	96	96.00%	
Other (Charcoal, chewstick, finger)	16	16.00%	4	4.00%	
Total	100		100		

S= Significant, NS= Non significant

Tooth brush usage in rural area was 84.00% while in urban area it was found to be 96.00%. Other users in rural area were 16.00% and 4.00% in urban area. Charcoal as material used for brushing teeth in rural area was used by 3.00% while that in urban area was used by none. Chewstick/ Miswak were used by 5.00% rural participants and that in urban area was used by none. Finger was used by 8.00% participants in the rural area while 4.00% urban participants used finger for brushing their teeth. The comparison on chi square test was observed to be significant.

IV. Discussion

In the present study it was observed that in rural area toothache was reported by 26.00% and in urban area it was reported by 38.00% participants. It shows more toothache was observed in urban area than in the rural area. In a different finding by **Varenne B [4]** it was reported that 9% of all the children experienced in the study had problems with teeth during the previous 12 months.

In the present study it was found that 15.00% participants in the rural area reported visiting a dentist and 35.00% visited a dentist in the urban area. More participants in the urban area used to visit dentist than the rural area probably because of non availability or non approachability of doctors in rural area. **Arora B [5]** in Ferozepur showed that out of 500 children 203(40%) never visited the dentist in rural area. Among the urban subjects 324 had been visiting the dentist. 176(35%) children had never visited the dentist.

In the present study all the participants reported brushing their teeths daily, both in the rural and urban area. In the rural area only 21% were found to brush teeths twice a day whereas in the urban area 46% participants cleaned teeths twice a day. More participants in the urban area used to brush teeths twice daily. **Tadevosyan A [6]** 2005 in Armenia found out that in the urban area, 86 % cleaned teeth daily, while only 44 % of the rural children cleaned teeth daily.

In the present study toothbrush usage in rural area was 84.00% while in the urban area it was found to be 96.00%. Thus toothbrush is found to be used more in the urban area than the rural area. Charcoal was used more in the rural area than in urban area. It was not used in urban area. Chewstick was used by 5.00% rural participants and in urban area it was used by none. Finger was used by 8.00% participants in the rural area while 4.00% urban participants used finger for brushing their teeth. In a study by **Varenne B [4]** it was observed that the majority of children reported that they used toothbrushes for cleaning their teeth; in addition 64% of the children declared using traditional chewing sticks. Chewsticks were widely used by adults for tooth cleaning and toothbrushes were used by 57%. **Inamdar IF [7]** (2013) in a study in Nanded observed that 47% (335) study subjects used finger as cleaning aid, of which the cleaning materials used for cleaning of teeth were tooth paste, tooth powder, *manjan, mishri* etc. **Manna N [8] *et al.*** (2014) found that about 67.4% study population used toothbrush and toothpaste regularly for tooth cleaning. Other materials were floss (2.3%), Plastic toothpick (2.3%), Charcoal (0.8%), Chew stick (0.8%), Guraku (2.3%) and a combination of these.

V. Conclusion

It shows more toothache was observed in urban area than in the rural area. More participants in the urban area used to visit dentist than the rural area probably because of non availability or non approachability of doctors in rural area. More participants in the urban area used to brush teeths twice daily. Charcoal as brushing material is used more in the rural area. Chewstick was used by 5.00% rural participants.

Recommendation

As more cases of dental caries are found in rural area than the urban area in the study, health education regarding oral hygiene, not using finger for brushing, not using charcoal, not using chewstick and not using correct brushing technique must be given.

Acknowledgement

Authors express their sincere gratitude to Dr Meenakshi Khapre and Head of the Department Dr. Abhay Mudey for helping in completing this research. Authors also acknowledge the immense help received from the scholars whose articles are cited and included in references of this manuscript.

References

[1]. Naseem Shah. Oral and dental diseases: Causes, prevention and treatment strategies: Burden of disease, National Commission on Macroeconomics and Health; 2005. pp 275-98)
[2]. Kalaskar RR, Kalaskar AR, Chandrolikar H, Hazarey S. Prevalence of Dental Caries and Treatment Needs in School Going Children of Vidarbha Region, Central India. Universal Research Journal of Dentistry 2015 5 (2): 69-72
[3]. National oral health programme. [Internet] http://nohp.org.in/aboutus/NOHP.aspx (Accessed on 09 Sep 2015)

[4]. Varenne B, Petersen PE, Ouattara S. Oral health behaviour of children and adults in urban and rural areas of Burkina Faso, Africa. *International Dental Journal* 56(2), 61-70
[5]. Arora B, Khinda VIS, Kallar S, Bajaj N, Brar GS. Prevalence and comparison of dental caries in 12 year old school going children in rural and urban areas of Ferozepur city using sic index, Dental, Oral and Craniofacial Research 2015; 1(2): 38-41.
[6]. Tadevosyan A, Petrosyan V, Thompson M. Dental caries, oral hygiene and nutritional skills of Sisian schoolchildren aged 12 years. Technical Report, American University of Armenia, College of Health Sciences, 2005.
[7]. Inamdar IF, Ubaidulla M, Tambe SH, Doibale MK. Study of oral health among adolescents in the field practice area of Urban health training centre, Nanded, India, *Journal of Dental and Medical Sciences201;*8(6): 26-30.
[8]. Manna N *et al.* Oral Hygiene Practice and Health Status among Adolescent Girls - A Rural School Based Study. *IOSR Journal of Dental and Medical Sciences* 2014; 13(2): 29-33