Carib.J.Sci.Tech

ORAL HEALTH STATUS OF 5 AND 12 YEAR OLD RURAL SCHOOL GOING CHILDREN WITH LIMITED ACCESS TO ORAL HEALTH CARE – A CROSS SECTIONAL SURVEY.

Authors & Affiliation:

Dr. S. Arun Kumar*; Post graduate, Department of Public Health Dentistry, Ragas Dental College and Hospital, Chennai, Tamilnadu, India.

Dr. P.D Madan Kumar M.D.S; Professor, Department of Public Health Dentistry, Ragas Dental College and Hospital, Chennai, Tamilnadu, India.

Dr. Shyam Sivasamy M.D.S; Senior Lecturer, Department of Public Health Dentistry, Ragas Dental College and Hospital, Chennai, Tamilnadu, India.

Dr. I. Nanda Balan M.D.S; Senior Lecturer, Department of Public Health Dentistry, Ragas Dental College and Hospital, Chennai, Tamilnadu, India.

Corresponding Author

Dr. S. Arun Kumar

Keywords:

Dental Caries, Limited access, Oral health care, Rural School Children, School dental health programme, Treatment needs.

ISSN 0799-3757

http://caribjscitech.com/

ABSTRACT

Objective – To assess the oral health status and treatment needs of 5 and 12 year old rural school children with poor access to oral health care services.

Materials and Methods – A cross sectional survey was conducted among 5 and 12 year old children in Kaveripakkam block of Vellore district (n=184). The oral health status was recorded using WHO proforma 1997.

Results – The prevalence of dental caries was 68.5% among 5 year old children and 30.5% among 12 year old children. Gingival bleeding on probing was observed among 13.76% and 30.0% of 5 year and 12 year old children respectively, whereas calculus was observed among 2.73% and 18.75% respectively. About 7.5% of 12 year old children had either questionable or mild fluorosis. The greatest need of treatment among this population was one surface restoration in 64.3% and 61.3% of 5 year and 12 year old children respectively, followed by two surface restorations, pulpal restorations and extractions.

Conclusion – Unmet treatment need was found to be high among these children. Providing oral health education at an early age along with school based preventive programs would help in improving the oral health status of rural school children with compromised access to oral health care services in Tamilnadu, India.

INTRODUCTION:

With contemporary understanding in social sciences it has been acknowledged that oral health is influenced by many social and environmental factors. One such factor is accessibility to oral health care services. Limited access to oral health care can be accounted for on the level of the patient, community, oral health care provider and many more. While the delivery of quality care is important, access to oral health is equally important determinant of oral health. Individual knowledge, perceptions of one's need for oral health care, financial concerns, and cultural preferences can influence patients' pursuit for oral health care.

Although, India has a maximum number of dental colleges in the world there is glaring disparity in the distribution of dental colleges. Geographic imbalances in the availability of oral health care services affect the dentist population ratio. About 69% of Indian population who resides in rural areas has poor access to oral health care facilities. As on March 2011, there are about 23,887 Primary Health Center's functioning in the country but not even 30% of which has Oral Health Care personnel posted in it. The impact of poor access to health care services is even higher on special population like children. They depend entirely on their parents to utilize the health care services.
Hence in this changing scenario we intended to assess the oral health status and treatment needs of school children with limited access to oral health care services.

MATERIALS AND METHODS:

A descriptive cross sectional study was conducted to evaluate the oral health status and treatment needs of 5 and 12 year old rural school children who had limited access to oral health services.

Kaveripakkam block is situated in Vellore district in the northern part of Tamilnadu with a population of 12,514 (census 2011) of which children below 14 years of age constitute of about 8.02%. Totally 55 village panchyats constitute this block. It has two primary schools and one middle school in three different villages namely Govinthangal, Kunnathur and Narasingapuram. The primary health care for this population is provided through a Primary Health Centre which is situated 12 kilometers away from this block. However there is no dentist posted in the Primary Health Centre. Oral health care services can be availed from a lone practitioner who is located approximately 7 kilometers away from these villages. Hence demography of this region showed that it has limited access to oral health care facilities.

The whole population of 189 school children (110 children of 5 years from Govinthangal and Kunnathur Government School and 79 children of 12 years from Narasingapuram middle school) studying in three schools located in this block were included in the study. A single examiner assessed the oral health status of the study subjects using **ADA Type III** examination. The subjects were made to sit on an oridinary chair facing the natural day light in an upright position with proper head rest. The examiner examined by standing to the right of the subject. The trained data recorder was seated on the left side of the patient, so that data recorder was able to hear the examiner's instructions and codes and also the examiner was able to see the data being entered. The data was recorded in the WHO oral health assessment proforma 1997. Examination was done using sterile mouth mirrors and CPI probes.

STATISTICAL ANALYSIS:

Collected Data were entered into Microsoft Spread sheet of Microsoft windows 2007 (Microsoft Office, United Status of America) and Descriptive Statistics were calculated using Statistical Package for Social Sciences (SPSS version 19) software. (IBM, United States of America)

ETHICAL CLEARENCE:

The ethical clearance to conduct the study was obtained from the Institutional Review Board of Ragas dental college, Chennai (023A-02/2012). The nature and purpose of the study was explained and permission to conduct the study was obtained from District Educational officer and the school authorities. The study was conducted during the month of March 2012. The clinical examination was conducted in class room within school premises taking prior permission from the Principal of the institution. Consent was obtained from the parents of the children prior to the study and consent was obtained from the children before examining their oral cavity.

RESULTS:

Among the total study population, 110 (58.20%) were 5 year old children and 79 (42.80%) were 12 year old children. Graph 1, explains the distribution of study population based on age and gender. The prevalence of dental caries was 64.5% among 5 year old children and 30.50% among 12 year old children. This population had mean def of 2.38 and means DMFT of 1.9. The treatment need of 5 and 12 year old children is given in Table 1. About 7.5% of 12 year old children had questionable or mild form of fluorosis. Nearly 13.6% of 5 years and 30% of 12 years had highest CPI code of 1 and 2.75% of 5 years and 18.75% of 12 years had highest CPI code of 2.

Graph 1: Distribution of study population based on Age and Gender.

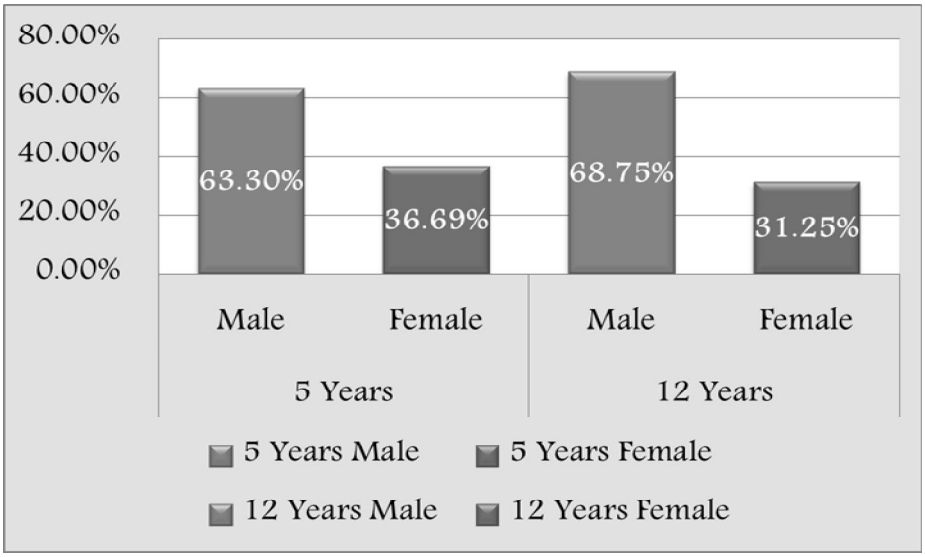

Table 1: Distribution based on treatment needs among 5 year old children

S.No	Treatment needs	5 year old children	12 year old children
1	One surface restoration	64.20%	61.30%
2	Two surface restoration	24.80%	46.60%
3	Pulp care	8.30%	7.60%
4	Extraction	4.60%	6.30%
5	Other care	0.90%	3%

DISCUSSION:

The present study assessed the oral health status and treatment needs of 5 and 12 year old school children who have limited access to oral health care. WHO prescribed index age groups of 5 and 12 years were taken into the study favourable for comparison.

Kaveripakkam block was selected for this study as most of the children in this area were studying in Government school which is a proxy indicator of their low socio economic status. Further children have to depend on their parents to avail health care facilities. Geographic obstacles and availability of transportation are other reasons affecting the utilization of oral health care to this population.

Dental caries was found to be the most prevalent oral disease among this population. Despite credible scientific advances and the fact that caries is preventable, dental caries remains the major public health problem. It was found that, based on caries

prevalence, findings of the present study are similar to National Oral Health survey conducted by the DCI 2002–03 where caries was high in almost all age groups and increased as age advanced. However, the findings were not similar to the study by Dahr et al in 2007 among 5 to 14 year old school going children of rural areas in Udaipur district and Rao NV et al in 2012 among 5 and 12 year old school going children of Rural and Urban areas of Guntur were the caries prevalence was low compared to the present study. Based on mean def and DMFT the findings of the present study are similar to the study done by Grewal et al in 2009 among school children of three educational zones of Delhi.

Based on CPI scores, gingival status of this population were similar to National Oral Health Survey 2002 – 03 and it's similar to the study done by kumar et al in 2005 among 5years were more than 80% of them showed good oral hygiene, among 12 years the observation is in contradiction with study. The reason could be that the present study was carried out in mixed dentition period, and due to varied food habits, shedding of primary teeth, improper and unsupervised oral hygiene practices and pubertal changes in girls.

The unmet treatment need was found to be very high in the study population and these findings are similar to National Oral Health survey conducted in India. This shows the importance of easy access to oral health care to rural population.

RECOMMENDATION:

In view of the close relationship between socio economic status, quality of life and oral health; and the fact that 69% of the Indian population lives in rural areas, the Central and State Governments should implement the concept of appointing dental surgeons in all Primary Health Centers (PHCs) and provide oral care through the Primary Health Care system. Oral health should be brought under the purview of National Rural Health Mission and Implementation of National Oral Health Policy to improve the Oral Health among rural population.

CONCLUSION:

Since the access to oral health care services was compromised in all domain, the oral health status of this rural children was found to be poor. Based upon the findings of the study, dental caries is the most prevalent disease among these rural school children. Implementation of oral health programs in rural areas through government sector at early age helps in improving preventive dental behavior, attitude and also minimizes the impact or cost of the treatment if intercepted at the right time.

REFERENCES:

1. www.censusindia2011.gov.in accessed on 06.09.2012.
2. Bali RK, Mathur VB, Talwar PP, Chanana HB (2002 – 2003). National Oral Health Survey and Fluoride Mapping. Dental Council of India, New Delhi 2004, India
3. Dhar V, Jain A, Van Dyke ET, Kohli A (2007). Prevalence of dental caries and treatment needs in the school going children of rural areas in Udaipur district. Journal of Indian Society of Pedodontics and Preventive Dentistry. 25(3):119–21.
4. Rao VN, Suresh S, Ahamed Z, Pratap KVNR (2012). Dentition Status and Treatment Needs of 5 and 12 Year Old School Children in Urban and Rural Areas of Guntur, India. Journal of Oral Health Community Dentistry. 6(3):126-30.
5. Grewal. H, Verma.M, Kumar.A (2012). Prevalence of dental caries and Treatment needs among school going childrens of three educational zones of Delhi, India. Indian Journal of Dental Research. 22(4);517–19.
6. Kumar MP, Joseph T, Varma RB, Jayanthi M (2005). Oral health status of 5 years and 12 years school going children in Chennai city. Indian Journal of Dental Research. 23(1);17–22.
7. Kaur Sohi KR, Gambhir RS, Veeresha KL, Randhawa AK, Singh (2012). Assessment of prevelance of dental caries among 5 and 12 year old school children in Chandigarh, India Archives of Oral Research. 8(1):39-45.
8. Rao CN, Metha A (2010). Dentition status and treatment needs of 12 year old rural school children of Panchkula district, Haryana, India. Journal Indian Dental Association. 4(9):303-5.
9. Gopalakrishnan P, Vasnan RS, Sharma PS, Nair KS, Thangappan KR (1999). Prevalence of dental flurosis and associated risk factors in Alappuzha district, Kerala. National Medical Journal of India. 12(3):99–110
10. Saravanan.S, Kalyani V, Vijayarani MP, Jayakodi P, Kumar SP, Felix JWA, Arunmozhi P, Krishnan V (2008). Caries prevalence and treatment needs of rural school children in Chidambaram Taluk, Tamil Nadu, South India. Journal of Indian Dental Research. 19(3):186– 90.