A CROSS SECTIONAL SURVEY ON PROSTHETIC NEEDS AMONG 12 AND 15 YEAR OLD SCHOOL GOING CHILDREN OF LUCKNOW DISTRICT

Minti Kumari`[1], Madhuri Kumari[2], Vaibhava Raaj[3]

1. Minti Kumari, M.D.S., Reader, Department of Public Health Dentistry, Patna dental college and hospital, Patna, Bihar, India
2. Madhuri Kumari, M.D.S., Senior lecturer, Department of Public Health Dentistry, Dr. B.R Ambedkar institute of dental sciences and hospital, Patna, Bihar, India
3. Vaibhava Raaj, M.D.S.(Periodontology), Dental Officer, ECHS, Hajipur

ABSTRACT

Aim:To find the prosthetic needamong 12 and 15 years old school going children of Lucknow.
Material and methods:1198 school going children were selected by multistage cluster random sampling technique. A total of 594 respondents from urban area and 604 from rural area were surveyed for the present study. Prosthetic needs were assessed using WHO Oral Health Assessment form 1997. Chi-square test was used to test the significance of the association between two factors.
Results: There were statistically significant differences seen in need for maxillary 1 unit prosthesis in urban and rural area
Conclusion: The Govt. should frame policies and strategies for oral health promotion. The policies should be incorporated in the National Health Policy.
Key words: maxillary, mandibular, prosthesis

INTRODUCTION:

Oral health is defined as "A Natural Functional, Acceptable Dentition Which Enables An Individual To eat, speak and socialise without active disease discomfort or embarrassment" (*World Health Organization*) [1]

Prevalence of oral diseases shows a varied picture. It has been observed that during 1940 the prevalence of dental caries in India was 55.5%. During 1960, it was reported to be 68%. This may be attributed to the changing life style and dietary patterns. Further it has been observed that dental caries was always higher in urban and cosmopolitans places. Almost 85% of children suffer from periodontal disease at a point of time. About 35%of the children suffer from mal-aligned teeth and jaw affecting their proper functioning[2]. Despite credible scientific advances, the disease continues to be a major public health problem.

The baseline data regarding prevalence of common oral diseases and the unmet needs of the school children are sparse in India

Corresponding Author: Dr Vaibhava Raaj Email: raajvaibhava@gmail.com

especially in this part of the country (Uttar Pradesh). Hence here an attempt is made to assess the Prosthetic needs of 12 and 15 year old urban and rural school going children of Lucknow district, so that the proper preventive and therapeutic treatment programmes can be planned.

MATERIAL AND METHODS

A cross-sectional study was designed to evaluate the prosthetic needs along with their locations in both urban and rural, 12 and 15 year old school going children of Lucknow district.

The calculation of sample size was performed to seek the results at 95% confidence level for which the value of z=1.96. The allowable error taken has been 0.05, *i.e.* e=0.05. 1198 school going children were selected by multistage cluster random sampling technique. A total of 594 respondents from urban area and 604 from rural area were surveyed for the present study. For urban sample in the first stage, Lucknow city was divided geographically into 5 areas *i.e.* East, West, North, South and Central. Approximately 22 wards came under each of these geographic areas. In the second stage, 1 ward was randomly selected from each geographic area. In the third stage, school survey was conducted. 119 individuals aged 12 and 15 years were examined from each 4 ward and 118 from one ward to attain a sample of 594. For rural sample in the first stage, Lucknow district was divided geographically into 4 areas – East, West, North and South. In the second stage, from each of the geographical areas, 2 community blocks were randomly selected. In the third stage, 151 individuals aged 12 and 15 years were interviewed and examined during school survey from 4 geographic areas to attain a sample of 604.

A pilot study was conducted using the proforma on 30 urban and 30 rural school children to assess the efficiency of proforma. A written consent was obtained from the school authorities before the commencement of this survey. Ethical clearance was obtained from the institute ethical committee.

The proforma had two parts: the first part was the general information, which facilitates collection of patient identification and demographic variables. The second part consists of clinical assessment using WHO Oral Health Assessment form 1997.[3] Calibration was done in the department and kappa coefficient was found to be 0.86. Instruments used for the examination were mouth mirror and probe. Cold sterilization method was followed.Individuals requiring emergency treatment were immediately referred to the Institute. Data was analyzed using SPSS software version 13. Chi-

square test was used to test the significance according to the location.

RESULTS

In the present study Out of 1198 children examined a total of 153 (50.66%) were males and 149 (49.34%) were females in 12 years; 152 (52.05%) were males and 140 (47.95%) were females in 15 years who represented urban group. 163 (54.70%) males and 185 (60.46%) males and 121 (39.54%) females in 15 years represented rural group of study population. Considering the age group and gender wise in 12 and 15 years no significant differences was noted, which signifies equal distribution of male and females in both ages in urban rural area.

Table 1 shows the maxillary prosthetic need in urban and rural sector. Number of prosthesis needed, need for one unit prosthesis 2.69% in urban and 5.88% in rural areas, need for multi-unit prosthesis in urban, 1.17% and rural 2.98% in combination of one or multi unit 1.7% in urban and 3.64% in ruralites in 12 year male, 12 year female, 15 year male, 15 year female. Overall the prosthesis need is more in rural. There were statistically significant differences seen in need for 1 unit prosthesis in urban and rural area.

Table 2 shows the mandibular prosthesis need in urban and rural. In one unit prosthesis need in urban is 3.70% in rural and 8.4%. This is statistically significant difference between urban and rural. Need for multiunit is 0.84% in urban and 1.49% in rural and need for combination of one and multi-unit is 0.67% in urban and 2.81% in rural. There were not statistically significant differences seen.

DISCUSSION

At the global level approximately 80% of children attend primary schools and 60% complete at least four years of education with wide variations between countries and gender. Period that runs from childhood to adolescence is an influential stage in people's lives. Children are particularly receptive during this period and an ideal setting for promoting oral health. Healthy behaviors and lifestyles developed at young age are more sustainable. With adequate training, school teachers can play an important role[1]. Messages can be reinforced regularly throughout the school years. Most oral diseases are preventable but advanced oral diseases are irreversible. **"Prevention is better than cure"**.

In the present study, prosthesis need was required more in ruralites as compared to urbanites. This is similar finding of **SahanaHegde*et al.* (2005)[4]** and **Sarvanan*et al.*[5]**

In the present study it is very much evident that there is lack of dental professional and professional services and general awareness in the general population, with increased lack mainly in the rural population because of inequitable distribution of dentist population ratio and lack of manpower and awareness in the rural population. As per WHO recommendation the dentist population ratio should be 1:7500 in general. But presently in India in rural area it is 1:1.5 lakh and in Urban area it is 1:10,000[6]. The problems are higher in rural than urban because of lack of parental guidance, unawareness and improper brushing.

School is an ideal place for providing effective oral health services for children especially who are at high risk of oral disease. Oral health programme can be incorporated into general health programme of children and other school curriculum and activities[1].

CONCLUSION

The high need for dental treatment, especially in the permanent dentition, reflects the current economic and practical difficulties within the Lucknow oral health service system and indicates the need for treatment programmes.Adequate public health programmes including school based oral health education and primary oral care, revitalization of existing oral health services, increasing the number of dentists and oral hygienists, and decreasing the patient: dentist ratio can all be recommended to the local oral health authorities. These recommendations combined with our present data can serve as a platform to implement preventive and restorative dental health programmes that meet the needs of Lucknow school children.

REFERENCES:

1. World Health Organisation. Information Series on School Health, Document eleven, Oral health promotion: An Essential element of Health of Health promoting school .World Health Organisation Geneva,2003.
2. National Oral Health Survey and Fluoride Mapping, 2002-2003, Dental Council of India, New Delhi, 2004.
3. World Health Organisation. Oral Health Surveys-Basic Methods, WHO,4th edition,Geneva 1997.
4. Sahana Hedge Shetiya,,PrakashPatil, Maratha Reddy.Oral health Assessment of children in Dr. D.Y. Patil Public school, Pimpri, Pune. Journal of the Indian Association of Public Health Dentistry 2005; 5:39–43.

5. SarvananS, RaoArun Prasad, Subaslini, Felix J.W. Caries prevalence and treatment needs in 15 year old school children in PondicherryIndia. Journal of PierreFauchardAcademy. 2007; 21: 94–99.
6. National oral health policy, Core Committee, Ministry of health and family planning. Government of India.

TABLES:

Table 1: Showing maxilliary Prosthetic Need in urban and rural examined children

Maxillary Prosthetic Need	Urban (n=594)					Rural (n=604)					Statistical Significance	
	12 yrs Male (n=153)	12 yrs Female (n=149)	15 yrs Male (n=152)	15 yrs Female (n=140)	Total (n=594)	12 yrs Male (n=163)	12 yrs Female (n=135)	15 yrs Male (n=185)	15 yrs Female (n=121)	Total (n=604)	χ^2	P
No prosthesis needed	135	136	132	128	531	121	104	136	93	454	41.439	<0.001
Need for one unit prosthesis	7	6	5	4	22	16	10	15	10	51	11.759	<0.001
Need for multi-unit prosthesis	3	0	2	0	5	2	2	3	2	9	1.090	0.297
Need for combination of one or multi-unit prosthesis	0	0	2	2	4	3	3	8	3	17	7.972	0.005

Table 2: Showing mandibular Prosthetic Need in urban and rural examined children

Mandibular Prosthetic Need	Urban (n=594)					Rural (n=604)					Statistical Significance	
	12 yrs Male (n=153)	12 yrs Female (n=149)	15 yrs Male (n=152)	15 yrs Female (n=140)	Total (n=594)	12 yrs Male (n=163)	12 yrs Female (n=135)	15 yrs Male (n=185)	15 yrs Female (n=121)	Total (n=604)	χ^2	P
No prosthesis needed	135	136	132	128	531	121	104	136	93	454	41.439	<0.001
Need for one unit prosthesis	5	3	5	3	16	11	9	9	4	33	5.876	0.016
Need for multi-unit prosthesis	1	1	4	1	7	5	4	6	3	18	4.758	0.029
Need for combination of one or multi-unit prosthesis	2	3	2	2	9	5	3	8	6	22	5.376	0.020