Research Article

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A study on the dental problems of school children

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ABSTRACT

Background: Two major oral disease, dental caries and periodontal disease are ancient and widespread. Approaches to deal with these two oral disease have neither been preventive nor curative, but rather symptomatic and reparative. We did study of the dental problems of school children among the age group of 12 to 18 years.

Methods: A cross sectional and point prevalence study was undertaken on the dental problems among school children belonging to 8th, 9th and 10th standards of four schools in the study area. Sample size was chosen to be 333 on the basis of simple random sampling technique. A pre designed and pre tested questionnaire was used to collect the data.

Results: In total, 333 children were examined, among which 167 were boys and 166 were girls. Among these 196 children were found to be having dental problems. Overall prevalence of deposits, gum disease and cavities was found to be 41.4%, 26.72% and 22.22% respectively in the total sample. The prevalence of caries in the age groups was found to be 44.4% in 11-13 years, 58.82% in 14-15 years 67.79% in 16 and above.

Conclusions: In total, 333 children were examined, among which 167 were boys and 166 were girls. Among these 196 children were found to be having dental problems. Overall prevalence of deposits, gum disease and cavities was found to be 41.4%, 26.72% and 22.22% respectively in the total sample. The prevalence of caries in the age groups was found to be 44.4% in 11-13 years, 58.82% in 14-15 years 67.79% in 16 and above.

Keywords: Dental health in school children, Periodontal disease, Gum disease and cavities

INTRODUCTION

Our teeth are made of hard bone like material. Inside the tooth are nerves and blood vessels. We need teeth for many activities but tooth disorders are nothing to smile about. They include problems such as cavities, infections and injuries. The most familiar and common symptom of tooth problem is tooth ache.²

Two major oral disease, dental caries and periodontal disease are ancient and widespread. Approaches to deal with these two oral diseases have neither been preventive nor curative, but rather symptomatic and reparative. The developed countries have already switched over to the organised preventive programs over the last two to three

decades and have started showing remarkable results as far as the prevention of dental caries in the younger generation is concerned.¹

In a country like India, with limited man power and resources, the most feasible and cost effective method of preventing rising trend of oral disease should be community based and directed towards school children. Dentists are the most effective to deliver the packages. However, the dentist population in India doesn't favour the hypotheses (1: 10,000). The latest trend is to explore the possibilities of services of para health and other categories of workers in disseminating the preventive orientation information to the community.

A very extensive and comprehensive health survey conducted in 2004 throughout India has shown the prevalence of dental caries at 51.9% in 5 years old children, 53.8% in 12 years old children and 63.1% in 15 years old teenagers4. The report concluded that a preventive dental program such as water fluoridation should be initiated to thwart the threat of dental caries. Schools are the best centres for vertical impact and long lasting sustainable implementation.

Such a study was initiated based on the facts and figures mentioned above.

METHODS

A Cross sectional, point prevalence study was carried out from 1st April 2015 to 30th June 2015. Amongst the students of four selected High schools namely, Khaja High School, Govt. HPS Rouzatain, Sayyid Akbar Husayni School and Bibi Raza Girls High School, Gulbarga in the field practice area of Khaja Bazar area, UHTC, Khaja Bandanawaz Institute of Medical Sciences, Gulbarga. Sample size of 260 was calculated using the formula for sample size calculation for single population proportion from literacy rate of Gulbarga district i.e. 50%. All the students belonging to 8th, 9th and 10th standards of the above mentioned schools and willing to participate were included in the study. Thus a total of 333 students belonging to four different schools were included in the study.

A pre-tested, pre-designed and semi-structured Proforma was used for the data collection. Visits to the above mentioned schools were made on the pre-decided dates. Data was collected regarding oral hygiene, prevalent diseases and knowledge of dental illness. The students were explained the objectives of our study and were assured that their identities won't be disclosed. Consent was obtained from all the participants of the study. Thus collected data was coded and analysed by Microsoft Excel 2007 and was further tabulated and presented.

RESULTS

Table 1: Showing the prevalence of various other dental problems.

Types of dental	Dental probl	ems
problems	No. (333)	%
Foul smelling	51	15.31
Inter dental space	67	20.12
Cluster	6	1.80
Gum disease	89	26.72
Deposit	137	41.14
Cavities	84	22.22
Other problems	45	13.51

[#] Multiple dental problems were noted

Table 2: Showing the relation between general physical health and dental problems.

General	Dental problems						
physical health	Present		Abse	nt	Total		
	No.	%	No.	%	No.	%	
Good	20	10.2	37	27.00	57	17.12	
Moderate	63	32.14	61	44.52	124	37.23	
Poor	113	57.65	39	28.46	152	45.64	
Total	196	100	137	100	333	100	

Chi square test value: 31.6695, P value: p < 0.00001. The result is significant at p < 0.05.

Table 3: Showing relation between father's education, occupation and dental problems.

Fathers Education	Dental problems				
	No.	%			
Illiterate	36	18.36			
Primary	43	21.93			
Secondary	55	28.06			
Graduate	27	13.77			
Post graduate	16	8.16			
Unknown	19	9.69			
Total	196	100			
Fathers Occupation					
Labour	36	18.36			
Driver	33	16.83			
Private worker	41	20.91			
Govt. servant	8	4.08			
Business	42	21.42			
Tailor	9	4.59			
Doctor	2	10.2			
Engineer	13	6.63			
Unknown	12	6.12			
Total	196	100			

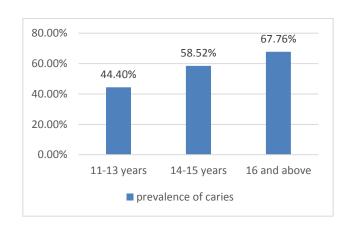


Figure 1: The prevalence of caries.

In this study, out of the overall 333 students, a majority of 167 were males (50.45%). Maximum number of students belonged to the age group of 14 to 15 years

(71.47%) with female predominance. Maximum number of students were in 10th (38.79%) followed by 9th (32.13%) and 8th (30.08%). Prevalence of dental problems was highest among 14 to 15 years (71.42%) with female predominance (82.35%). 196 (58.85%) students were having one or the other dental problems and majority were males. The prevalence of caries in the age groups was found to be 44.4% in 11-13 years, 58.82% in 14-15 years 67.79% in 16 and above [Figure 01]. The maximum number of other dental problems were deposits (41.14%) followed by Gum diseases (26.72%) and Cavities (22.22%) (Table 1). Majority of dental problems are in students having poor general physical health i.e., 57.65% and least in students having good general physical health i.e., 10.2% (Table 2). Chi Square was significant for this association. Education had a clear influence on incidence of dental problems as it was found that higher the education of the father, lesser were the dental problems (Table 3). Children of illiterate mother and father had higher percentage of dental problems than those of literate ones. In the study, working class like labourers, drivers and private workers' children were found to have higher percentage of dental problems (Table 3). It was also observed that higher number of students from government schools has dental problems than private schools (36.73%). This association was found to be statistically significant through Chi Square test (Table 4). It was found that dental problems were more in families where only mother was working and least in where both the parents were working and that dental problems were more in large families (6 and above) and less in small families.

Table 4: Showing association between schools and dental problems.

School	Dental problems											
	Male				Female				Total			
	Normal		Diseased		Normal		Diseased		Normal		Diseased	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Khaja high school	22	41.5	60	51.28	0	0	0	0	22	16.05	60	30.61
Govt. HPS	16	30.1	42	35.89	28	33.3	30	39.5	44	32.11	72	36.73
Bibi Raza	0	0	0	0	41	48.8	40	52.6	41	29.92	43	21.93
Sayyid Akbar Husayni	15	28.3	15	12.82	15	17.8	6	7.9	30	21.89	21	10.71
Total	53	100	117	100	84	100	76	100	137	100	196	100

Chi square: 147.43; p value: p<0.00001. The result is significant at p<0.05.

DISCUSSION

In the study conducted in coastal areas of Karnataka region, the percentage with decayed teeth peaked at 86.45% in 5-9 years and in 10-14 years at 80.64%, there is a decrease in the percentage of decayed teeth.⁶ In the present study there is prevalence of decayed teeth in older age group than in younger age group. The study conducted in Nainital district, Uttarakhand on school children showed overall 77.7% prevalence of caries of which 67.26% in the group of 7-9 years and 80.86% in 10-12 years. It was observed that there were greater treatment needs in older age group. This observation was similar to present study. The study conducted in rural Udaipur, Rajasthan on school children (6-10 years), in the comparison between two genders, 87.63% of boys and 82.20% of girls needed treatment and difference was statistically significant.⁸ This observation was similar to the present study. The study conducted in Chidambaram on school children (5-15 years) observed that 1484 (63.83%) had dental caries. This observation is higher than the present study findings. This may be due to impact of urban based population. Further research is recommended. The study conducted in rural areas of Barbanki district in school children (5-14 years) observed

that the prevalence of gingivitis was more among girls than boys. ¹⁰ This observation is similar to the present study. In our study the prevalence of dental problems was more. Hence, it was noted that there was a basic need to educate and inform the students about their condition. Stress on need to maintain good oral hygiene by regular brushing twice a day has to be made through a community awareness program.

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