Research Article

Prevalence of Dental Caries among the Government Primary School Children at Ukkali District Vijayapura: A Correlated Prevalence Survey

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ABSTRACT

A Cross-sectional study was carried out on 386 school children in the age group of 6-15 years studying in Government Schools of Ukkali at district Vijayapura. The children were assessed for dental caries by "Oral Cavity Examination". Dental caries was diagnosed according to the presence of "Decayed/Filled/missing Teeth" present according to the WHO Oral health survey 1997. Over all prevalence of dental caries was found to be dmf (58.3%) and DMF (41.2%). The prevalence was slightly higher with DMF in girls 59.3% as compared to 25.0% prevalence seen in boys and it is almost same for dmf.

Key words: Prevalence, Dental Caries, Primary School Children
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INTRODUCTION

Dental caries remains the most important childhood disease affecting a considerable proportion of young children worldwide. It is one of the most common unmet health care needs of children especially in primary school children [1]. Dental caries is a disease with multifactorial causes. The prevalence of dental caries in a population is influenced by a number of risk factors such as age, sex, ethnic group, dietary patterns and oral hygiene habits are affected by income, education and social environment [2]. According to the World Oral Health Report 2003, dental caries and periodontal diseases are the two globally leading oral afflictions [3]. Dental caries remains the most important childhood disease affecting a considerable proportion of young children worldwide. It is one of the most common unmet health care needs of children especially in primary school children [4].

The caries experience in deciduous dentition is a strong predictor for cariogenic breakdown of the mixed and permanent dentition [5]. The control of dental caries in young children is a continuing problem and it will be easy to manage if the greatest needs are identified. So it is very important to identify high risk group in deciduous and mixed dentition, which is useful to determine the treatment needs and to implement preventive procedures in those children.

The aim of the study was therefore, to evaluate the prevalence of dental caries in the primary school children with deciduous and mixed dentition ageing from 6 to 12 years in government primary school children at Ukkali, district Vijayapura.

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EXPERIMENTAL SECTION

A study was conducted among primary-school children attending government school at rural place Ukkali district Vijayapura, Karnataka. All the eligible children in the selected government school from 2nd to 6th standard of both girls and boys were present on the day of examination were included in the study. Before conducting the study, ethical clearance was obtained from Ethics Committee. The official permission for examination was obtained from all the concerned authorities. Voluntary written informed consent was obtained from parents of the children participating in the study before the clinical examination.

A total of 386 primary-school children participated in the study. The children were examined by single examiner who was trained to record the WHO oral health assessment form to avoid inter-examiner variations. The subjects were examined on an upright chair in adequate natural light in the premises of school using the autoclaved instruments. Each tooth surface was examined by using plain mouth mirror and WHO probe. Clinical assessment of dental caries was done according to WHO Oral Health Assessment Form 1997[6], using dentition status part only and decayed, missing and filled teeth are seen and calculated from the information.

Statistical Analysis
All characteristics were summarized descriptively. For continuous variables, the summary statistics of N, mean, standard deviation (SD) were used. For categorical data, the number and percentage were used in the data summaries and Chi square test for association was used.

For continuous data, the differences of the mean analysis variables were tested with the t-test. If the p-value is > 0.05, then the results were considered to be not significant. Data was analyzed using SPSS software version 20.

RESULTS

A total of 386 children participated in the study, among this 204 were male and 182 were female.

Table 1: Percent Distribution of Gender

Gender	N	Percent
Male	204	52.8
Female	182	47.2
Total	386	100

Total five different age group of children percent distribution from the age group of 6 years to 11years children were examined for dmf & DMF, and determined significant P value test.

Table 2: Percent Distribution of age groups of children

Standard	Male		Female		Total		p value
	N	Percent	N	Percent	N	Percent	
6-7	17	8.3	20	11.0	37	9.6	
7-8	35	17.2	52	28.6	87	22.5	
8-9	51	25.0	40	22.0	91	23.6	<0.05*
9-10	63	30.9	38	20.9	101	26.2	
10-11	38	18.6	32	17.6	70	18.1	
Total	204	100.0	182	100.0	386	100.0	

significant

The association of dmf among the five different age group of children between male and female shows significant P value. Maximum 28% seen in the male at age of 9 to 10 years and 36.4% seen in the female at of age group of 7to 8 years. The association of DMF was more significant in female than male at the age group of 9-10years.

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Table 3: Association of dmf with standards by Gender

Gender	Age group	dmf Not present		Dmf Present		p value
		N	Percent	N	Percent	
Male	6-7	2	2.3	15	12.7	<0.05*
	7-8	7	8.1	28	23.7	
	8-9	19	22.1	32	27.1	
	9-10	30	34.9	33	28.0	
	10-11	28	32.6	10	8.5	
	Total	86	100.0	118	100.0	
Female	6-7	17	22.7	3	2.8	<0.05*
	7-8	13	17.3	39	36.4	
	8-9	14	18.7	26	24.3	
	9-10	13	17.3	25	23.4	
	10-11	18	24.0	14	13.1	
	Total	75	100.0	107	100.0	

significant

Mean comparison of dmf and DMF between male and female children. We found more significant changes for DMF than dmf. According to the standard the mean comparison between dmf/DMF was significant for female in both dmf and DMF and for the male only with dmf.

Table 4: Mean comparison of dmf and DMF by Gender

Dental Caries	Male (N=204)		Female (N=182)		p value
	Mean	SD	Mean	SD	
dmf	2.0	2.7	2.0	3.3	0.872
DFT	0.4	0.9	1.3	1.5	<0.05*

significant

DISCUSSION

Dental caries is a common dental disease occurring during childhood. Despite incredible scientific advances, the disease continues to be a major public health problem especially in developing countries. The World Health organization (WHO) has ranked it as number three among all chronic non communicable diseases that require worldwide attention for prevention and treatment [6]. Caries prevalence varied in different studies and this may be attributed to different study populations, different study settings, local differences in eating habits, varied cultural practices, oral cleaning habits, fluoride content of water, etc.

The present study was a cross-sectional study carried out to assess the prevalence of dental caries among 6 to 15 year-old school children in Ukkali, district Vijayapura India. A total of 386 school children were examined. A highly significant difference among boys and girls in their knowledge about dental decay and their fear of the dentists. The present study shows high prevalence of dental caries in females for DMF and it remains almost same for dmf in both male and female. The prevalence of DMF in female (59.3%) and male (25.0%) and for dmf (57.8%) The prevalence of dental caries among females was higher compared to males in both urban and rural areas [7, 8, 9]. The higher prevalence of dental caries among children in government schools could be due to lack of parental awareness/prioritization for care, affordability issues, issues of child neglect etc [8, 10, 11]. The present study is in conformity with above study.

The present study is in accordance with the study of dental caries among females might be attributed to early eruption of teeth among them and hence having a longer period of exposure of teeth to the oral environment compared with males [12,13]. The study conducted for the prevalence of dental caries in male and female children [14]. In present study the total prevalence of dental caries in both male and female children for the dmf (58.3%) and DMF (41.2%). The national oral health survey of Thailand reported the mean value of primary dentition dmf (5.7) and for the DMF (1.6), the mean value of the present study is more than the study of Thailand [15, 16].

The study shows no significant difference in the caries prevalence between male and female school children [17, 18]. Some study shows that the prevalence of dental caries is more in male compared to female children [19, 20, 21].

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CONCLUSION

The present study was conducted with the aim to find and compare the prevalence of dental caries among primary school children from the rural place Ukkali, results had shown that there is difference in the prevalence of dental caries between male and female school children. The prevalence of dental caries was higher among female school children compared to male. It is important to maintain the low prevalence of caries among children by increasing awareness and promoting oral health care strategies in the rural place and make utilization of dental care services available for them.

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