Original Research

To determine the Prevalence of dental caries in Childrens

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ABSTRACT:
Aim: To determine the Prevalence of dental caries in Childrens. **Materials and Methods:** This study was done as population based cross – sectional study on the prevalence of dental caries among the aged between 2–12 years. We divided children in three groups: Group I: Children age 2-4 year , Group II: Children age 5-8year and Group III: Children age 9-12year. The total number of sample is 100. The study collected information onage, gender, and educational levels, as well as oral hygiene behaviors, such as frequency of teeth cleaning per day, type of dentifrice used, whether or not toothbrush, and fluoridated toothpaste were used. **Results:** In this study, the overall prevalence of dental caries amongthe children aged between 2–12 years was found to be 84%.The overall values for percentage of males and females were 82% caries. The prevalence of caries is more in female (85.71%) than male (80%) The sample betweenmales and females were statistically significant. The overall values for percentage of socioeconomic group are 83% caries. The prevalence of caries is more in upper class population (86.36%) than less lower class population (80.43%), the middle class population is 86.36% carious was recorded. The sample between all class are statistically significant. (p value is less than 0.0001). The overall values for percentage of diet habit groupare 68% caries. The prevalence of caries is more in vegetarian population (73.33%) than less non vegetarian population (64.44%), the mixed diet population is 68% carious was recorded. The sample between all class are statistically significant. (p value is less than 0.0001). **Conclusion:** Dental caries is a preventable condition, and its impact may be reduced by raising knowledge about oral health among parents, teachers, and the general public. It is important to emphasize the importance of maintaining good dental hygiene and providing guidance on proper dietary habits. This data is significant for assessing previous and designing future oral health preventive and treatment initiatives that focus on young children. The research findingsreveal that individuals had different degrees of dental caries and untreated treatment requirements based on age groups.
Keywords: Dental caries, Childrens, socioeconomic group

INTRODUCTION

The prevalence of dental caries was of great interest for long and is a principal subject of many epidemiological researches being carried out worldwide. Dental caries is considered one of themost ubiquitous non-communicable diseases with a worldwide prevalence of 35% for all ages combined contributing to the global burden of diseases [1] Dental caries is a multifactorial infectious microbial disease of the teeth that results in localized dissolution and destruction of the calcified tissues often resulting in cavitation [2]. Dental caries is still a smoldering disease in the developing countries like India that has engrossed its tentacles deep into the regions where the resources are inadequate for dental treatment, lack of public awareness, and motivation with increased intake of carbohydrates [3, 4]. The prevalence and incidence of dental caries is influenced by various socio–demographic factors like age, sex, ethnic groups, dietarypatterns and oral hygiene habits [5]

MATERIALS AND METHODS

This study was done as population based cross – sectional study on the prevalence of dental caries among the aged between 2–12 years. We divided children in three groups:
Group I: Children age 2-4 year **Group II:** Children age 5-8year **Group III:** Children age 9-12year

The total number of sample is 100.

The study collected information on age, gender, and educational levels, as well as oral hygiene behaviors, such as frequency of teeth cleaning per day, type of dentifrice used, whether or not toothbrush, and fluoridated toothpaste were used.

The clinical examination included the number of teeth that were decayed, missing, and filled as a result of caries. The WHO oral assessment form for adults was used to record the results of intraoral examinations [1].

RESULT

In this study, the overall prevalence of dental caries amongthe children aged between 2–12 years was found to be 84%.

Table 1: Age Group

Group	Number	Carious teeth	Percentage	Mean	SD	P value
Group I (2- 4YEAR)	15	14	93.33			
Group II (5- 8YEAR)	25	24	96	35.65	5.37	P<0.0001
Group III (9- 12YEAR)	60	46	76.67			
Total	100	84	84			

P is less than 0.0001

Sample distribution according to age Table 1 shows that the age group of the population rangesfrom 2 to 12 years. The high prevalence recorded in Group II (96%), because there is mix dentation than more in Group I(93.33%) and Group III(76.67%). The p-vale is less than 0.0001so in this age group data is significant.

Table 2: Gender

Gender	Number	Carious teeth	Percentage	Mean	SD	P value
Male	65	52	80	55.54	3.58	P<0.0001
Female	35	30	85.71			
Total	100	82	82			

Table 2 shows the overall values for percentage of males andfemales were 82% caries. The prevalence of caries is more in female (85.71%) than male (80%) The sample betweenmales and females were statistically significant.

Table 3: Religion

Religion	Number	Carious teeth	Percentage	Mean	SD	P value
Hindu	48	32	66.67			
Muslim	45	40	88.89	35.65	6.32	P<0.0001
Other	7	5	71.43			
Total	14580	77	77			

Table 3 shows the overall values for percentage of religions are 77% caries. The prevalence ofcaries is more in Muslim population (88.89%) because poor oral hygiene and bad sanitation than less Hindu population (66.67%), the other population is 71.43% carious was recorded. The sample between all religions are statistically significant. (p value is less than 0.0001).

SOCIOECONOMIC GROUP

Table 4 shows the overall values for percentage of socioeconomic group are 83% caries. The prevalence of caries is more in upper class population (86.36%) than less lower class population (80.43%), the middle class population is 86.36% carious was recorded. The sample between all classare statistically significant. (p value is less than 0.0001).

Table 4: Socioeconomic group

Socioeconomic group	Number	Carious teeth	Percentage	Mean	SD	P-value
Lower class	46	37	80.43			
Middle class	32	27	84.38	25.65	4.98	P<0.0001
Upper class	22	19	86.36			
Total	100	83	83			

Table 5 shows the overall values for percentage of diet habit group are 68% caries. The prevalence of caries is more in vegetarian population (73.33%) than less non vegetarian population (64.44%), the mixed diet population is 68% carious was recorded. The sample between all class are statistically significant. (p value is less than 0.0001).

Table 5: Diet habit

Diet type	Number	Carious teeth	Percentage	Mean	SD	p-value
Vegetarian	30	22	73.33			
Non vegetarian	45	29	64.44	27.76	3.58	*P*<0.0001
Mixed	25	17	68			
Total	100	68	68			

Table 6 shows the overall values for percentage of oral hygiene habit group are 90% caries. The prevalence of caries is more in datun and other population population(95%) than less tooth brush and paste population (88.75%). The sample between all class are statistically significant. (p value is less than 0.0001).

Table 6: Oral hygiene habit

Oral hygiene habit	Number	Carious teeth	Percentage	Mean	SD	P-value
Tooth brush & paste	80	71	88.75	57.87	4.53	*P*<0.0001
Datum & other	20	19	95			
	100	90	90			

DISCUSSION

In this study, the overall prevalence of dental caries amongthe children aged between 2–12 years was found to be 84% which is in concordance with the study by Karunakaran *et al.* which was conducted among children aged between 4–6 yearsin which the prevalence of dental carieswas 65.9%. [6] It could also be due to the lower calcium content of deciduous teeth and structural differences that may increase caries susceptibility in deciduous teeth [12]. However,a cross-sectional study conducted in Bundelkhand region, India,[13] reported a much higher prevalence of dental caries (82.62%) in 3–14 years old group as compared to the present study.

The prevalence of caries teeth was found to higher among females (85.71%) than among males (80%) in the present study and this difference was significant (*P*<0.0001). The prevalence of dental caries was higher in girls (76%) than in boys (68.8%) [8] Dixit *et al.* in their study reported that the overall prevalence of dental caries was higher among boys (55%) than girls (44%) and Dhar *et al.*, in their study reportedthat caries prevalence in the boys groupwas 66.91% while that of girls group was 59.03% [9, 10] Rajesh *et al.* the prevalence of dental caries was found to be almost equalamong the female (34%) and male (31.8%) [11].

In this study caries prevalence Muslim population (88.89%) because poor oral hygiene and badsanitation than less Hindu population (66.67%), the other population is 71.43% carious was recorded. The sample between all religions are statistically significant.

The prevalence of caries is more in upper class population (86.36%) than less lower class population (80.43%), the middle class population is 86.36% carious was recorded. The samplebetween all class are statistically significant. Datta *et al.* among the school children in Sundarban found that 84.2% of the studentsbelonging to the less income group had dental caries in comparison to 59.65% students in higher income group and this difference is statistically significant 8 In the present study, the prevalence of dental caries was high in the low socioeconomic status because of their poor oral hygiene practice, lack of awareness, improper food intake, and family status. This finding is similar to the study conducted by Moses *et al.* [14]

This study showed that those who consumed vegetarian population (73.33%) than less non vegetarian population (64.44%), the mixed diet population is 68% carious was recorded. The sample between all class are statistically significant(*P*<0.0001). Abdul *et al.* in their study found that the prevalence of dental caries was higher among those who consumed vegetarian diet 85.57% than among those who consumed mixed diet and this difference is because of thefact the population in this region are totally vegetarians due to religious reasons [15].

Dixit *et al.* in their work found that 56% of the childrenbrushed their teeth daily and among them only 24% of them brushed their teeth twice a day [16]. Datta *et al.* reported that the prevalence of dental caries was lower (56.41%) among those who had the habit of washing the mouth after every meal/most of the time than those who rarely washed their mouth after taking food (80%) and this difference is again statistically significant.in this study prevalence of cares inmore those who no bruising but sample size is less. Accordingto this study the sample size of those who bruising is high andcaries prevalence is high (88.75%).

CONCLUSION

Dental caries is a preventable condition, and its impact may be reduced by raising knowledge about oral health among parents, teachers, and the general public. It is important to emphasizethe importance of maintaining good dental hygiene and providing guidance on proper dietary habits. This data is significant for assessing previous and designing future oral health preventive and treatment initiatives that focus on young children. The research findings reveal that individuals had different degrees of dental caries and untreated treatment requirements based on age groups.

181

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