

Original Research

Assessment of caries incidence by DMFT index among school going children among school going children

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ABSTRACT:

Background: Dental caries is one of the major oral health problems of human community. The present study was conducted to assess caries incidence by DMFT index among school going children. **Materials & Methods:** 430 school going children age ranged 8-12 years of both genders were enrolled. A thorough oral examination was performed by dental surgeon. Caries status was recorded in permanent dentition as DMFT. **Results:** There were 30 boys and 35 girls of 8 years, 42 boys and 45 girls were of 9 years, 58 boys and 55 girls were of 10 years, 46 boys and 40 girls were of 11 years and 24 boys and 55 girls were of 12 years. The mean DMFT/ dmft score 0 was present in 87%, 92%, 88%, 87% and 84% in children of 8, 9, 10, 11 and 12 years respectively. Score 1-3 was seen in 8%, 6%, 10%, 7% and 10.5% in children of 8, 9, 10, 11 and 12 years respectively. Score >3 in children with 8 years was seen in 5%, in 8 years in 2%, in 10 years in 2%, in 11 years in 6% and in 12 years in 5.5% respectively. The difference was significant (P< 0.05). **Conclusion:** A significant proportion of school-going children is affected by dental caries. Early caries assessment and parents' education is required.

Key words: Dental caries, DMFT, Children

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INTRODUCTION

Oral health is overall health. The occurrence of dental and oral diseases is universally present. These diseases have to be treated as they are irreversible.¹ These demand high care professional opinion. The prevalence of dental caries and gingival diseases among children is on rise. Pain, difficulty in eating, drinking and swallowing are common complains among these patients. Dental caries starts appearing in early childhood in both genders. It is still a common health problem.²

Dental caries is one of the major oral health problems of human community. Clinically, it manifests from a faint white spot lesion to the frank cavitation. There are manifold dental indices which are used for measuring dental caries such as decayed-missing-filled teeth/decayed-extract-filled teeth (DMFT/deft) index, Caries severity index, Nyvad's criteria, International Caries Detection and Assessment System-I (ICDAS-I), ICDAS-II and

recently the Caries Assessment Spectrum and Treatment (CAST) system.³

A good oral hygiene can prevent occurrence of dental caries. Dental caries is an irreversible microbial disease of calcified tissue characterized by destruction of organic and demineralization of inorganic portion of tooth.⁴ Dental caries can be prevented by effective tooth brushing. It should be started as soon as first tooth erupts in the oral cavity. Parents should take care of their child's oral health. They should assist their child to brush. The use of fluoridated toothpaste is preferred.⁵

Every child should be brought to the dentist every 6 months to have dental check-up. School going children can be educated about their oral hygiene.⁶ The present study was conducted to assess caries incidence by DMFT index among school going children.

MATERIALS & METHODS

This study was conducted among 430 school going children age ranged 8-12 years of both genders. Parents of children were informed regarding the study and their consent was obtained. School authority's permission was also obtained before starting the study.

Data such as name, age, gender etc. was recorded. A thorough oral examination was performed by dental surgeon. Caries status was recorded in permanent dentition as DMFT, in primary dentition as dft, and in mixed dentition, both DMFT and dft were combined. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I: Distribution of subjects

Age (Years)	Boys	Girls
8	30	35
9	42	45
10	58	55
11	46	40
12	24	55

Table I shows that there were 30 boys and 35 girls of 8 years, 42 boys and 45 girls were of 9 years, 58 boys and 55 girls were of 10 years, 46 boys and 40 girls were of 11 years and 24 boys and 55 girls were of 12 years.

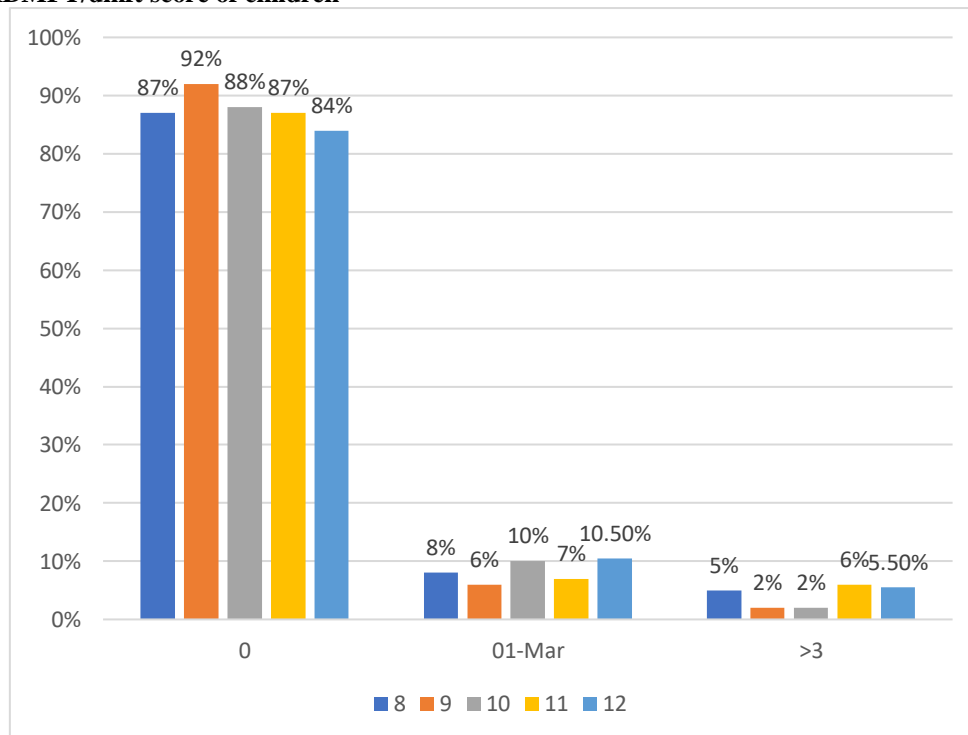
Table II: DMFT/dmft score of children

DMFT/dmft score	8	9	10	11	12
0	87%	92%	88%	87%	84%
1-3	8%	6%	10%	7%	10.5%
>3	5%	2%	2%	6%	5.5%
P value	0.02	0.01	0.04	0.03	0.05

Table II, graph I shows that mean DMFT/ dmft score 0 was present in 87%, 92%, 88%, 87% and 84% in children of 8, 9, 10, 11 and 12 years respectively. Score 1-3 was seen in 8%, 6%, 10%, 7% and 10.5% in children of 8, 9, 10, 11 and 12 years respectively.

Score >3 in children with 8 years was seen in 5%, in 8 years in 2%, in 10 years in 2%, in 11 years in 6% and in 12 years in 5.5% respectively. The difference was significant (P< 0.05).

Graph : DMFT/dmft score of children



DISCUSSION

Dental caries attacks the teeth of children of all ages requiring either restorative therapy or even pulp

therapy.⁷ Apart from the mentally exhaustive and demanding nature of these treatments from a child's perspective, they are also not very economically

viable. Hence, prevention of caries seems to be the most ideal and financially appropriate measure to be adopted.⁸ Thus, the collection of data regarding the prevalence of caries and the subsequent therapy requirements seems to be all the more important in chalking out a preventive course of action for this disease.⁹ Oral hygiene status determines the awareness about someone's oral health. School going children are more prone to develop dental caries as there in uncontrolled consumption of sugar products and lack of adhering to proper brushing habits.¹⁰ The present study was conducted to assess caries incidence by DMFT index among school going children.

We found that there were 30 boys and 35 girls of 8 years, 42 boys and 45 girls were of 9 years, 58 boys and 55 girls were of 10 years, 46 boys and 40 girls were of 11 years and 24 boys and 55 girls were of 12 years. Mittal et al¹¹ in their study among 1003 children with 619 in 5 years age group and 384 in 12 years group, the prevalence of dental caries was 68.5% in 5 years old children, dental fluorosis was 22.5% and treatment needs were 63.7%. The prevalence of dental caries in 12 years age group was 37.5%, dental fluorosis was 76.04%, highest community periodontal index score was 2, seen in 80.2% and overall treatment needs were 44.3%.

We observed that mean DMFT/ dmft score 0 was present in 87%, 92%, 88%, 87% and 84% in children of 8, 9, 10, 11 and 12 years respectively. Score 1-3 was seen in 8%, 6%, 10%, 7% and 10.5% in children of 8, 9, 10, 11 and 12 years respectively. Score >3 in children with 8 years was seen in 5%, in 8 years in 2%, in 10 years in 2%, in 11 years in 6% and in 12 years in 5.5% respectively. Singh et al¹² assessed the prevalence of dental caries among school-going children. Six thousand eight hundred and ninety school-going children was enrolled. The prevalence of caries was recorded. The prevalence was 26.02%. Among these children with dental caries, 50.25% of the children belonged to the age group of 13-15 years, while the remaining 49.75% of the children belonged to the age group of 9-12 years. Prevalence of dental caries was significantly higher in females (71.11%) in comparison to males. Furthermore, dental caries was significantly more prevalent among participants with toothbrushing frequency of less than once a day (51.20%).

Rodan et al¹³ examined gingival index (GI) and plaque index (PI) and oral hygiene habits in 6-11 years old school children and found that 29.8 % children had healthy gingiva, 38.5 % had mild gingivitis, 31.4 % had moderate gingivitis, and 0.3 % had severe gingivitis with non-significant difference ($P > 0.05$). It was found that 36.8 % of the examined students never brushed their teeth. Average gingival index (GI) was 0.77 and average plaque index (PI) was 0.61.

Reddy et al¹⁴ assessed the caries experience in schoolchildren using decayed-missing-filled teeth (DMFT)/decayed-extracted-filled teeth (deft), International Caries Detection and Assessment

System-II (ICDAS-II), and Caries Assessment Spectrum and Treatment (CAST) systems. An epidemiological survey was carried out among 1550 schoolchildren (37,644 teeth) between the age ranges of 4 and 14 years. American Dental Association type III examination was performed using plane mouth mirrors and community periodontal index probes using DMFT/deft, ICDAS II, and CAST indices. Out of 37,644 teeth examined, 2,718 teeth had shown caries. Caries experience with DMFT/deft index was 5.54%. Highest score of DMFT was observed in deciduous dentition period (59.02%). Overall prevalence of dental caries with ICDAS and CAST system was 6.7% and 6.95%, respectively. The highest percentage of noncavitated lesions (ICDAS - 2.26% and CAST - 3.9%) and greater prevalence of caries among deciduous teeth (ICDAS - 53.2% and CAST - 58.7%) was observed with both ICDAS and CAST systems.

CONCLUSION

Authors found that a significant proportion of school-going children is affected by dental caries. Early caries assessment and parents' education is required.

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