

Prevalence of Dental Caries among School Going Children in Modinagar: A Survey to Assess the Treatment Needs

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Abstract

Background: Dental caries is on rising trend in India, and is considered as a public health problem. Caries is a multifactorial disease that results in loss of tooth structure but it is largely preventable. It is a result of man's progress towards civilization. It is a chronic disease especially in adolescents. The present study was conducted to assess the burden of caries in 12 to 15 year old school going children.

Materials and methods: a cross-sectional study was carried out in high schools in various villages of district Modinagar. Students aged 12 to 15 year were checked for presence of caries and asked about the oral hygiene habits and socio-demographic characteristics with the help of pre designed questionnaire.

Results: total of 700 students were examined and overall prevalence of dental caries were found to be 68%. It was found that prevalence of dental caries was higher in students who had lower per capita monthly income. Caries was significantly lower among students who brushed their teeth twice a day compared to those who brushed only once. Male students had higher caries prevalence than females.

Conclusion: Dental caries is highly prevalent among children in Modinagar. This calls for awareness about proper oral hygiene practices, dietary counselling, regular screening of children and appropriate treatment of caries lesion at incipient stage so as to reduce pain and the premature loss of tooth.

Keywords caries, prevalence, prevention, school going children

Introduction: Dental caries commonly known as tooth decay, results from breakdown of the tooth enamel.^[1] It is an infectious microbial disease of multifactorial origin that involves complex interaction of diet, host, and microbial flora over a period of time.^[2] Caries interferes with normal nutrition intake, speech, self-esteem and daily routine activities.^[3] Dental caries are most common among the spectrum of oral diseases and a major public health burden in developing countries, affecting 60%-90% of school

children and a number of adults.^[4] Dental caries still remain the most common chronic disease in children and adolescents.^[2] As dental caries are preventable, it becomes imperative to collect the data on prevalence of dental caries and treatment needs to determine the course of action for preventive care. Thus the present study was carried out with the objective of knowing the burden of dental caries among school children aged 12 to 15 years.

Materials and Methods: the study was conducted in high schools of district Modinagar. The study was conducted among students of grades VII to X of age around 12 to 15 years. A total of 700 students were examined for caries in an ordinary chair in broad day-light facing away from sunlight. Oral hygiene practices and socio demographic details were recorded in predesigned questionnaire. The ethical clearance was approved from the Ethical Committee of D.J college of Dental Sciences and Research, prior to the start of the study and consent was obtained from school authorities as well as from parents of school children. The inclusion and exclusion criteria were

Inclusion criteria

- School children aged 12-15 years.
- School children who were residents of Modinagar city (lifelong).

Exclusion criteria

- Individuals suffering from systemic illness
- Individuals who were not willing to participate in the study
- Individuals with orthodontic brackets and with severe extrinsic stains on their teeth.

Results: the data obtained were entered in Microsoft excel sheet and analyzed using SPSS version 21. Chi square test was used to test statistical significance. The results showed that caries was highly prevalent among the children and overall is about 68%. Males have higher caries prevalence 72% compared to female students where prevalence of 64% is reported. According to Prasad's socioeconomic scale majority of students belonged to lower middle, and upper lower class and only 8% belonged to upper class. Caries were low in upper class. Regarding oral hygiene practices 67% students brushed once daily, 18% brushed twice daily and 15% did not brush their teeth everyday. It was seen that only 49% of students who brushed twice daily had caries compared to 78% who brushed once daily or occasionally.

Discussion: The present study showed an overall caries prevalence rate of 72% among the children aged 12 to 15 years. The studies by Joshi et al.^[5] among primary school children and Dhar et al.^[6] among 6-10 years old school children reported the prevalence of dental caries to be 77% and 63.2% respectively which in accordance to that reported in the present study. Ahmad et al.^[7] conducted a study among 5-18 years old school children and they found that the prevalence of dental caries was 30.9% which is far below the prevalence in the present study. In our study caries prevalence is 72% among boys and 64% in girls. Joshi et al.^[5] also reported a higher prevalence among boys (80%) than in girls (73%). In this study, a maximum number of children, that is, 78% brushed once in a day. In a study conducted by Shaileet al.^[8] a maximum number of children, that is, (52.9%) brushed once in a day. Datta et al. among the school children in Sundarban found that 84.2% of the students belonging to the less income group had dental caries in comparison to 59.65% students in higher income group and this difference is statistically significant.^[9]

Conclusion: Dental caries is a public health problem and its prevalence is high in children and adolescents. Dental caries is a preventable disease and the magnitude of the problem can be alleviated by creating awareness on oral health to the students, parents, teachers, general public with emphasis on oral hygienic practices and diet counseling. Regular screening programmes should be conducted in schools for early diagnosis and prompt treatment.

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