

Original Research

Prevalence of Dental caries in school going children

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ABSTRACT:

Background: To evaluate the prevalence of dental caries in school going children. **Materials & methods:** A total of 150 school going children were enrolled. Children were of age group 5-7 years. Complete screening of children was done. Data was collected and results were analysed using SPSS software. **Results:** A total of 150 school children were enrolled. Out of which 100 were boys and 50 were girls. The prevalence of dental caries was 60% among boys and 44% among girls. The girls had lower dmft scores than boys and the overall prevalence was 69.4%. **Conclusion:** The prevalence of dental caries was high in school going children.

Keywords: Prevalence, Children, Dental caries.

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INTRODUCTION

Dental caries is the most prevalent disease of the oral health in school-aged children around the world.¹Dental caries leads to tooth pain, discomfort, eating impairment, loss of tooth, and delayed language development in children.^{2,3} Furthermore, dental caries affects children's functions and body growth and imposes a financial burden on their families.⁴ In addition, children with dental caries are exposing to fear and anxiety which can result to both severity and incomplete treatment of the condition.⁵Dental caries is a polymicrobial dysbiotic pathology characterized by a chronic-degenerative process originated by multifactorial etiology.⁶ Furthermore, it is one of the most widespread diseases in the global population and it's the most frequent chronic pathology in childhood.^{7,8} It is characterized by a local destruction of the dental hard tissues produced by acidic products derived from the bacterial fermentation of carbohydrates assimilated from diet.⁷ This destruction is originated from a dynamic process in which demineralization and remineralization periods rapidly alternate.⁸To produce a carious lesion, one or various of these etiological factors defined by Keyes in 1963 should coexist: cariogenic bacteria, susceptible host and substrate, that is fermentable carbohydrates. However, Fejerskov and Manji in 1990

observed that the biological factors weren't the only causes of the carious pathology, and that's why behavioral and socioeconomic factors may also cause the disease.⁹

Children with social exclusion risk may present factors that make them more susceptible to certain oral diseases, such as caries, and poor oral hygiene. These factors are mainly associated with the environment that surrounds them, that is, the level of education and beliefs of parents, family income, domestic problems, situations of abuse, the absence of parents, etc. All this, on the one hand, influences the possibility of accessing preventive and health measures, and on the other hand, the lack of interest that parents experience for the oral health of their children. Several studies have already shown the association between a low socioeconomic level and a higher DMFT/dmft.¹⁰⁻¹² Hence, this study was conducted to evaluate the prevalence of dental caries in school going children.

MATERIALS & METHODS

A total of 150 school going children were enrolled. Children were of age group 5-7 years. This study was completed in a span of 1 month. The children were examined by using plane mouth mirrors and periodontal index probe. The examination was done

under natural day light using WHO criteria. The children were examined for the presence of decay, missing and filled teeth (dmft) index was used to record primary dentition status. The dmft index values are recorded and mean deviation is calculated. Data was collected and results were analysed using SPSS software.

RESULTS

A total of 150 school children were enrolled. Out of which 100 were boys and 50 were girls. The

prevalence of dental caries was 60% among boys and 44% among girls. The girls had lower dmft scores than boys and the overall prevalence was 69.4%. Restored teeth were only 3.8% and extracted teeth accounted for 1.8%. The mean dmft score for boys was 2.59 and girls was 2.48. According to residential area, the rural population had 56.7% and urban had 43.4% of caries prevalence rate.

Table 1: Prevalence of dental caries

Variables	Number of children examined	Children affected	Percentage %	Score dmft (mean)
Gender				
Boys	100	60	60	2.59
Girls	50	22	44	2.48
Total	150	104	69.4	2.54

Table 2: according to residence prevalence rate of dental caries

Residence	Number	Percentage %
Rural	85	56.7
Urban	65	43.4

DISCUSSION

The history of diagnosing dental caries began in 1883 by W.D. Miller who found bacterial involvement in caries development. Though centuries have passed and advancements in medical techniques and technology have evolved mankind is yet to achieve a significant reduction in prevention of dental caries. Shafer (1993) defined dental caries as an irreversible microbial disease of the calcified tissues of the teeth, characterized by demineralization of the inorganic portion and destruction of the organic substance of the tooth, which often leads to cavitation.¹³ Hence, this study was conducted to evaluate the prevalence of dental caries in school going children.

In the present study, a total of 150 school children were enrolled. Out of which 100 were boys and 50 were girls. The prevalence of dental caries was 60% among boys and 44% among girls. The girls had lower dmft scores than boys and the overall prevalence was 69.4%. A study by Karunakaran R et al, 850 children examined, 560 (65.88%) children had dental caries. Mean dmft score was 2.86. Prevalence of dental caries was higher in boys (69.6%) than in girls (61.5%). The untreated decay teeth accounted for 92.4%. The prevalence of dental caries among 4-6 years old children is high in the Namakkal district. The need for the creation of dental awareness among children and their primary caregivers is crucial and the need for developing immediate oral health promotion strategies including an increase in school dental health programs is recommended.¹⁴

In the present study, restored teeth were only 3.8% and extracted teeth accounted for 1.8%. The mean dmft score for boys was 2.59 and girls was 2.48. According to residential area, the rural population had

56.7% and urban had 43.4% of caries prevalence rate. Another study by Arangannal P et al, the prevalence of dental caries was 68.8% in the total surveyed population. The gender-wise prevalence of dental caries shows, females to have slightly higher prevalence than male. The prevalence of dental caries at the age group of 6 years was 57%, seven year 67%, eight year 63%, nine year 74%, 10 year 76%, 11 year 74%, 12 year 69%, 13 year 71%, and 14 year 69%. The distribution of CARS (Caries associated with Sealants and Restorations) in the surveyed population was only 1.4%. The distribution of non-cavitated/early enamel lesions was higher in the studied population and indicated a requirement of a sustained dental health preventive program targeting specific segments of the population.¹⁵ Prada I et al, the prevalence of caries observed was 81.87% and the global DMFT was 4.481. The mean plaque index observed was 1.12. No statistically significant differences were found between global DMFT and sex, global DMFT and age, global DMFT and diet, global DMFT and visits to the dentist and global DMFT and plaque index. A significant association was seen between global DMFT and ethnicity and global DMFT and brushing frequency. Statistically significant association was found also between plaque index and visits to the dentist and plaque index and diet. It was observed that children at risk of social exclusion had a very high global DMFT and a regular plaque index. So, it can be concluded that social exclusion constitute an underlying factor that increase caries prevalence and global DMFT and a marker of poor oral hygiene habits.¹⁶ The prevalence of caries is lower in the study by Sakeenabi et al. in 2012¹⁷, 28%, and these authors, as well as Sudha et al.¹⁸, in 2005,

found no statistically significant association between sex and caries prevalence. On the other hand, the study by Kumar et al.¹⁹ also saw that there was a statistically significant association between caries prevalence and sex, being, the male sex that had a higher global DMFT compared to the female sex. The study by Gatou et al.²⁰, in 2011, on the other hand, obtained opposite results, with the female sex having the highest caries experience.

CONCLUSION

The prevalence of dental caries was high in school going children.

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