

Original Research

Analysis of prevalence of dental caries in school going children

Dr. Gursharan Kaur Sandhu

B.D.S.

ABSTRACT:

Background: Oral health is defined as a state of the mouth and its associated structures, where there is no disease or pain and able to function well to masticate food and state of teeth which are of a socially acceptable appearance. The present study was undertaken for analysing the prevalence of dental caries in school going children. **Materials & methods:** A total of 500 school going children were enrolled in the present study from different schools located in the urban areas. Children were of age group 5- 15 years of age. Age was recorded from school records. The examiners underwent 1 day training program and clinical calibration exercises before screening the children. The children were examined individually in the school premises by one of the four examiners on a simple straight wooden chair using plane mouth mirrors and community 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. dmft index values are recorded and mean and standard deviation calculated. All the results were recorded in Microsoft excel sheet and were analysed using SPSS software. **Results:** Out of 500 children, 339 children were affected by dental caries. Hence; the overall prevalence of dental caries among school going children was 67.8 percent. Mean dmft score was 2.90. **Conclusion:** The present research provided us with the baseline data of all the children screened. Children are highly susceptible to dental caries and should be educated routinely about its prevention.

Key words: Dental carries, School going children

Received: 08 November, 2021

Accepted: 14 December, 2021

Corresponding author: Dr. Dr. Gursharan Kaur Sandhu, B.D.S.

This article may be cited as: Sandhu GK. Analysis of prevalence of dental caries in school going children. Int J Res Health Allied Sci 2022; 8(1): 51- 53.

INTRODUCTION

Oral health is defined as a state of the mouth and its associated structures, where there is no disease or pain and able to function well to masticate food and state of teeth which are of a socially acceptable appearance. Oral health is integral to general health and essential for well-being. Dental caries are most common among the spectrum of oral diseases and are still a major public health burden in developing countries, affecting 60%-90% of school children and a number of adults.¹⁻³

There is a recent trend of increasing levels of dental caries in most of the developing countries. This reason could be largely due to the increased consumption of sugars and reduced exposure to fluoride. Thus, emphasizing that dental caries is a disease of children has only been reduced to certain extent, and substantial improvement in reduction of the disease is not achieved.⁴⁻⁶ Hence; the present study was

undertaken for analysing the prevalence of dental caries in school going children.

MATERIALS & METHODS

The present study was conducted for assessing the prevalence of dental caries in school going children. A total of 500 school going children were enrolled in the present study from different schools located in the urban areas. Children were of age group 5- 15 years of age. Age was recorded from school records. The examiners underwent 1 day training program and clinical calibration exercises before screening the children. The children were examined individually in the school premises by one of the four examiners on a simple straight wooden chair using plane mouth mirrors and community 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.

dmft index values are recorded and mean and standard deviation calculated. All the results were recorded in Microsoft excel sheet and were analysed using SPSS software.

RESULTS

A total of 300 school going children were enrolled. Among them, 59.2 percent of the subjects were females while the remaining were males. 52.2 percent of the subjects belonged to the age group of 11 to 15 years. Out of 500 children, 339 children were affected by dental carries. Hence; the overall prevalence of dental carries among school going children was 67.8 percent. Mean dmft score was 2.90.

Table 1: Age and gender-wise distribution of children screened

Variable		Number	Percentage
Age group (years)	5 to 10	239	47.8
	11 to 15	261	52.2
Gender	Males	204	40.8
	Females	296	59.2

Table 2: Prevalence of dental caries

Variable	Number	Percentage
Overall prevalence of dental caries	339	67.8
Score dmft (Mean)	2.90	

DISCUSSION

According to the World Health Organization (WHO 1997), detection of dental caries in surveys has been performed at cavitation level because examiners frequently cannot reliably assess the non-cavitated lesions. However, the inclusion of non-cavitated caries lesions is necessary since these can be arrested through certain preventive measures and lowering the cost of restorative treatment. Hence, especially in a population with low prevalence of dental caries, the introduction of a criterion which include non-cavitated caries with the purpose of improving the sensitivity of caries epidemiology and clinical trial are required. In India, the trend indicates an increase in oral health problems especially dental caries, which has been consistently increasing both in prevalence and in severity over last five decades. Children of all age groups are affected by dental caries and its treatment is restorative care, which may even include pulp therapy. As these treatment options are not only expensive, but also demanding for the child. The best option, which is more acceptable and economical for the children is – Prevention. Thus, it becomes imperative to collect the data on prevalence of dental caries and treatment needs to determine the course of action for preventive care.⁶⁻¹⁰ Hence; the present study was undertaken for analysing the prevalence of dental caries in school going children.

A total of 300 school going children were enrolled. Among them, 59.2 percent of the subjects were females while the remaining were males. 52.2 percent of the subjects belonged to the age group of 11 to 15

years. Out of 500 children, 339 children were affected by dental carries. Arangannal P et al assessed the prevalence of dental caries in school children aged between 6-14 years using the International Caries Detection and Assessment System (ICDAS II). The study population consisted of 2796 school children studying in government recognized schools. Each student was examined by a single examiner using ICDAS system under natural light during normal school hours. 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.¹¹

In the present study, the overall prevalence of dental caries among school going children was 67.8 percent. Mean dmft score was 2.90. Ingle NA et al assessed the prevalence of dental caries among 12-15 year old government and private school children. This was a cross-sectional study carried out on total 1400 school children, of which 700 school children were from government schools and 700 were from private schools. Simple random sampling methodology was used to select the sample. The subjects were examined for dental caries according to WHO 1997 assessment form. Significant Caries Index was also used to assess the prevalence of dental caries. The prevalence of dental caries was found higher among government school children, that is, 53%, when compared to private school children, that is, 47% and this difference was found to be statistically significant. The mean decayed, missing, and filled teeth were found to be higher in government school children (7.61 ± 2.86) as compared to private school children (4.76 ± 2.42).¹²

CONCLUSION

The present research provided us with the baseline data of all the children screened. Children are highly susceptible to dental caries and should be educated routinely about its prevention.

REFERENCES

1. Parker EJ, Jamieson LM. Oral health comparisons between children attending an Aboriginal health service and a Government school dental service in a regional location. *Rural Remote Health*. 2007;7:625.
2. Sudha P, Bhasin S, Anegundi RT. Prevalence of dental caries among 5-13-year-old children of Mangalore city. *J Indian Soc Pedod Prev Dent*. 2005;23:74–9.

3. Saravanan S, Anuradha KP, Bhaskar DJ. Prevalence of dental caries and treatment needs among school going children of Pondicherry, India. *J Indian Soc Pedod Prev Dent.* 2003;21:1–12.
4. Moses J, Rangeeth BN, Gurunathan D. Prevalence of dental caries, socio-economic status and treatment needs among 5-15 year old school going children of Chidambaram. *J Clin Diagn Res.* 2011;5:146–51.
5. Dash JK, Sahoo PK, Bhuyan SK, Sahoo SK. Prevalence of dental caries and treatment needs among children of Cuttack (Orissa) *J Indian Soc Pedod Prev Dent.* 2002;20:139–43.
6. Mahesh Kumar P, Joseph T, Varma RB, Jayanthi M. Oral health status of 5 years and 12 years school going children in Chennai city - An epidemiological study. *J Indian Soc Pedod Prev Dent.* 2005;23:17–22.
7. Joshi N, Sujan S, Joshi K, Parekh H, Dave B. Prevalence, severity and related factors of dental caries in school going children of Vadodara city – An epidemiological study. *J Int Oral Health.* 2013;5(4):35–39.
8. Karunakaran R, Somasundaram S, Gawthaman M, Vinodh S, Manikandan S, Gokulnathan S. Prevalence of dental caries among school-going children in Namakkal district: A cross-sectional study. *J Pharm Bioallied Sci.* 2014;6(Suppl 1):S160–61.
9. Goel R, Vedi A, Veerasha KL, Sogi GM, Gambhir RS. Oral hygiene practices and dental caries prevalence among 12 & 15 years school children in Ambala, Haryana -A cross-sectional study. *J Clin Exp Dent.* 2015;7(3):e374–79.
10. Ingle NA, Dubey HV, Kaur N, Gupta R. Prevalence of dental caries among school children of Bharatpur city, India. *Journal of International Society of Preventive & Community Dentistry.* 2014;4(1):52–55.
11. Arangannal P, Mahadev SK, Jayaprakash J. Prevalence of Dental Caries among School Children in Chennai, Based on ICDAS II. *J Clin Diagn Res.* 2016;10(4):ZC09-ZC12.
12. Ingle NA, Dubey HV, Kaur N, Gupta R. Prevalence of dental caries among school children of Bharatpur city, India. *J Int Soc Prev Community Dent.* 2014;4(1):52-55.