

Original Research

Prevalence of Dental caries in school going children

Dr. Azmat Yaqoob¹, (Prof) Dr. Monika Verma Koul²

¹Postgraduate student, ²HOD, department of pedodontics and preventive dentistry, career postgraduate Institute of dental sciences, Lucknow

ABSTRACT:

Background: The present study was conducted for evaluating the prevalence of dental caries among school going children.

Materials & methods: A total of 500 school going children were enrolled in the present study. The structured pretested proforma was used to assess dental caries in the school children that included information related to gender, age and brushing frequency. Clinical examinations included dental caries examination using WHO standard criteria as mentioned in WHO Oral Health Proforma¹⁻⁴ was used to assess the prevalence of dental caries. The clinical examination was carried out by a trained examiner who was initially trained and was supervised by an expert clinician. Inclusion criteria included school children aged 12-15 years. Individuals suffering from systemic illness and who were not willing to participate in the study were excluded. The statistical analysis was performed using SPSS software. **Results:** The prevalence of dental caries among school going children was found to be present in 47.8 percent of the patients. Among these 239 patients, 139 were boys while the remaining 200 were girls. Majority of the patients with dental caries belonged to lower class of socio-economic status. **Conclusion:** Dental caries is a common public health problem in school children associated with poor oral hygiene, dietary and dental visit habits.

Key words: Dental caries, School children

Received: 08 July, 2022

Accepted: 11 August, 2022

Corresponding author: Dr. Azmat Yaqoob, PG student, Department of pedodontics and preventive dentistry, career postgraduate Institute of dental sciences, Lucknow

This article may be cited as: Yaqoob A, Koul MV. Prevalence of Dental caries in school going children. Int J Res Health Allied Sci 2022; 8(4):71-73.

INTRODUCTION

Dental caries is the most prevalent chronic disease affecting humans irrespective of age, sex, race and socioeconomic status. As around 90% of school children and most of the adults have been affected by dental caries, hence it has been considered as the most important global oral health burden. Epidemiological surveys are important for monitoring trends in dental caries and for assessing the dental needs. 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.¹⁻³

Oral health care in rural areas are often limited due to shortage of dental manpower, financial constraints, and the lack of perceived need for dental care among rural masses. Among oral diseases, the dental caries is an important dental public problem in India and is predominantly a disease of childhood. Pain due to dental caries can affect normal food intake and daily curriculum and sports activities in the children.⁴⁻⁶ Hence; the present study was conducted for evaluating the prevalence of dental caries among school going children.

MATERIALS & METHODS

The present study was conducted for evaluating the prevalence of dental caries among school going children. A total of 500 school going children were enrolled in the present study. The structured pretested proforma was used to assess dental caries in the school children that included information related to gender, age and brushing frequency. Clinical examinations included dental caries examination using WHO standard criteria as mentioned in WHO

Oral Health Proforma¹⁻⁴ was used to assess the prevalence of dental caries. The clinical examination was carried out by a trained examiner who was initially trained and was supervised by an expert clinician. Inclusion criteria included school children aged 12-15 years. Individuals suffering from systemic illness and who were not willing to participate in the study were excluded. The statistical analysis was performed using SPSS software. The mean and standard deviation of scores were calculated, comparison between government and private school children was done using Chi-square test, $P \leq 0.05$ was considered as statistically significant.

RESULTS

Out of 500 children, dental caries was found to be present in 239 subjects. Hence; overall, the prevalence of dental caries among school going children was found to be present in 47.8 percent of the patients. Among these 239 patients, 139 were boys while the remaining 200 were girls. Majority of the patients with dental caries belonged to lower class of socio-economic status.

Table 1: Prevalence of dental caries

Dental caries	Number	Percentage
Present	239	47.8
Absent	261	52.2
Total	500	100

DISCUSSION

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. 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.⁷⁻⁹ Hence; the present study was conducted for evaluating the prevalence of dental caries among school going children.

Out of 500 children, dental caries was found to be present in 239 subjects. Hence; overall, the prevalence of dental caries among school going children was found to be present in 47.8 percent of the patients. Among these 239 patients, 139 were boys while the remaining 200 were girls. Alkarimi HA et al assessed the relationship between dental caries status and height and weight in 6- to 8-year-old Saudi children with high caries prevalence. Caries status was assessed by using the dmft (decayed, missing, filled, teeth [primary teeth]) index. Height and weight were

assessed by using z scores of height-for-age (HAZ), weight-for-age (WAZ), and BMI-for-age (BAZ) calculated by World Health Organization standardized procedures. A total of 417 of the 436 eligible schoolchildren with complete data were included, with a response rate of 95.6%. Their mean dmft index was 5.7 ± 4.2 . There was an inverse linear relationship between caries status and children's HAZ, WAZ, and BAZ and significantly lower anthropometric outcomes for children at each consecutive group with higher levels of caries. The associations remained significant after adjusting for dental, social, and demographic variables. The inverse linear association between dental caries and all anthropometric outcomes suggests that higher levels of untreated caries are associated with poorer growth in Saudi schoolchildren.¹¹

In the present study, majority of the patients with dental caries belonged to lower class of socio-economic status. Mulu W et al determined the prevalence and associated factors of dental caries among primary school children at Bahir Dar city. Systematic random sampling technique was used to select the children. Structured questionnaire was used to interview children and/or parents to collect socio demographic variables. Clinical dental information obtained by experienced dentist using dental caries criteria set by World Health Organization. Binary and multiple logistic regression analysis were computed to investigate factors associated with dental caries. Of the 147 children, 82 (55.4%) were girls. Majority of the children (67.6%) cleaned their teeth using traditional method (small stick of wood made of a special type of plant). The proportion of children having dental caries was 32 (21.8%). Primary tooth decay accounted for 24 (75%) of dental caries. The proportion of missed teeth was 7 (4.8%). The overall proportion of toothache and dental plaque among school children were 40 (27.2%) and 99 (67.3%), respectively. Grade level of 1-4 (AOR = 3.9, CI = 1.49 -10.4), poor habit of tooth cleaning (AOR = 2.6, CI = 1.08-6.2), dental plaque (AOR = 5.3, CI = 1.6 - 17.7) and toothache (AOR = 6.3, CI = 2.4 - 15.4) were significantly associated with dental caries.¹²

CONCLUSION

Dental caries is a common public health problem in school children associated with poor oral hygiene, dietary and dental visit habits.

REFERENCES

- Peterson PE. The World Oral Health Report 2003: Continuous improvement of oral health in the 21st century – the approach of the WHO Global Oral Health programme. Community Dentistry and Oral Epidemiology. 2003;31(Supp-1):3-24.
- Peterson PE. The global burden of oral diseases and risk to oral health. Bulletin of the World Health Organization. 2005;83(9):661-69

3. Bonecker M, Marcenes W, Sheiham A. Caries reductions between 1995, 1997 and 1999 in preschool children in Diadema, Brazil. *Int J Paediatr Dent.* 2002;12(3):183–88.
4. Holm AK. Caries in the preschool child: International trends. *J Dent.* 1990;18:291–5.
5. World Health Organisation. 4th ed. Geneva: WHO; 1997. *Oral Health Survey, Basis Methods.*
6. Misra FM, Shee BK. Prevalence of dental caries in school going children in an urban area of South Orissa. *J Indian Dent Assoc.* 1979;51:267–70.
7. Mwakatobe AJ, Mumghamba EG. Oral health behavior and prevalence of dental caries in Dar-es-salaam. *Tanzan Dent J.* 2007;14:1–7.
8. Shingare P, Jogani V, Sevekar S, Patil S, Jaha M. Dental caries prevalence among 3-to 14-year old school children, Uran, Ringad District, Maharashtra. *J Contemp Dent.* 2012;2:11–4.
9. Das UM, Beena JP, Azher U. Oral health status of 6 and 12-year-old school going children in Bangalore city: An epidemiological study. *J Indian SocPedodPrev Dent.* 2009;27:06–8.
10. Singhal DK, Acharya S, Thakur AS. Dental caries experience among pre-school children of Udupi Taluk, Karnataka, India. *J Oral Health Community Dent.* 2015;8:05–9.
11. Alkarimi HA, Watt RG, Pikhart H, Sheiham A, Tsakos G. Dental caries and growth in school-age children. *Pediatrics.* 2014 Mar;133(3):e616-23.
12. Mulu W, Demilie T, Yimer M, Meshesha K, Abera B. Dental caries and associated factors among primary school children in Bahir Dar city: a cross-sectional study. *BMC Res Notes.* 2014 Dec 23;7:949