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ORIGINAL RESEARCH

EVALUATION OF PREVALENCE OF DENTAL CARIES AMONG SCHOOL GOING CHILDREN: AN EPIDEMIOLOGICAL STUDY

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ABSTRACT:
Background: The caries experience varies greatly among countries and even within small regions of countries. It varies with age, and sex, socioeconomic conditions, ethnicity, diet, medical conditions of the patient, oral hygiene practices, etc. Hence; the present study was undertaken for assessing the prevalence of dental caries among school going children. **Materials & Methods:** A total of 550 school going children were screened in the present study. Complete demographic details of all the children were obtained. After meeting the inclusion criteria, oral examination of all the subjects was done. A mouth mirror, probe and explorer were used for screening the children. A master chart was prepared and incidence of dental caries was recorded and was correlated with and gender. Kuppuswamy was used for assessing the socio-economic status of the children. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software. **Results:** In the present study, dental carried was found to be present in 192 children. However; it was found to be absent in 358 children. Significantly higher prevalence of dental caries among children with increasing age was seen. While assessing the incidence of dental caries among school going children on the basis of gender, non-significant results were obtained. However; while assessing the incidence of dental caries with socio-economic status, significant results were obtained. **Conclusion:** Dental caries is significantly prevalent among school going children especially among children of upper socio-economic status.
Key words: Dental caries, Children, School

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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]

The caries experience varies greatly among countries and even within small regions of countries. It varies with age, and sex, socioeconomic conditions, ethnicity, diet, medical conditions of the patient, oral hygiene practices, etc., and even within oral cavity all the teeth and surfaces are not equally susceptible to caries. It not only causes pain and discomfort, but also in addition, leads to a financial burden. The prevention of dental caries has long been considered as an important task for the health professionals. Scientists are continuing their research in identifying the best practices for diagnosis, treatment, and prevention of dental caries. Previous methods for the treatment of dental caries in a surgical manner have being replaced by newer strategies that

emphasize disease prevention and conservation of tooth structure.[4-6]

Hence; the present study was undertaken for assessing the prevalence of dental caries among school going children.

MATERIALS & METHODS

The present study was conducted in the department of pedodontics and it included assessment of prevalence of dental caries among school going children. Ethical approval was obtained from institutional ethical committee and written consent was obtained after explaining in detail the entire research protocol. A total of 550 school going children were screened in the present study. Complete demographic details of all the children were obtained. Inclusion criteria for the present study included:

- Subjects within the age group of 5 to 15 years,
- Subjects with negative history of any known drug allergy,
- Subjects with negative history of any other systemic illness

After meeting the inclusion criteria, oral examination of all the subjects was done. A mouth mirror, probe and explorer were used for screening the children. A master chart was prepared and incidence of dental caries was recorded and was correlated with and gender. Kuppuswamy was used for assessing the socio-economic status of the children. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software. Chi- square test was used for assessment of level of significance. P value less than 0.05 was regarded as significant.

RESULTS

In the present study, dental carried was found to be present in 192 children. However; it was found to be absent in 358 children. Among the patients of age group of 5 to 8 years, out of 126 children, dental caries were found to be present in 45 children while they were found to be absent in 81 children. Among the patients of age group of 9 to 12 years, out of 208 children, dental caries were found to be present in 69 children while they were found to be absent in 139 children. Significantly higher prevalence of dental caries among children with increasing age was seen. While assessing the incidence of dental caries among school going children on the basis of gender, non-significant results were obtained. However; while assessing the incidence of dental caries with socio-economic status, significant results were obtained.

Table 1: Incidence of dental caries with age

Age group (years)	Dental caries present	Dental caries absent	p- value
5 to 8	45	81	0.02 (Significant)
9 to 12	69	139	
13 to 15	78	138	
Total	192	358	

Table 2: Incidence of dental caries with gender

Gender	Dental caries present	Dental caries absent	p- value
Male	109	205	0.89 (Non-Significant)
Female	83	153	
Total	192	358	

Table 3: Incidence of dental caries with socio-economic status

Socio-economic status	Dental caries present	Dental caries absent	p- value
Upper	62	67	0.01 (Significant)
Middle	55	114	
Lower	75	177	
Total	192	358	

DISCUSSION

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. Dental caries has high prevalence all around the world involving the people of all region and society. In India, only sporadic data regarding dental caries is available. Most of studies have been localized to a smaller area involving a particular community.[7-9] Hence; the present study was undertaken for assessing the prevalence of dental caries among school going children.

In the present study, dental carried was found to be present in 192 children. However; it was found to be absent in 358 children. Among the patients of age group of 5 to 8 years, out of 126 children, dental caries were found to be present in 45 children while they were found to be absent in 81 children. Among the patients of age group of 9 to 12 years, out of 208 children, dental caries were found to be present in 69 children while they were found to be absent in 139 children. Significantly higher prevalence of dental caries among children with increasing age was seen. Hiremath A et al assessed the prevalence of dental caries and treatment needs of 6-11years old Indian school children. Sampling frame consisted of 6-11years old primary school children. Study sample consisted of 13,200

children selected from 10 talukas of Belgavi District, Karnataka, India. Clinical examination for dmft and DMFT was carried out in the school premises by five teams, each consisting of one faculty, three postgraduate students and five interns. The examiners were trained and calibrated by the principal investigator. Statistical analysis was done using Chi-square and t-test. The overall caries prevalence was 78.9%, mean dmft was 2.97±2.62 and mean DMFT was 0.17±0.53. The decayed teeth component was the principal component in both dmft and DMFT indices. The mean dmft in boys was higher compared to girls and it was found to be statistically significant ($p<0.05$). This study provided us with the baseline data, using which treatment was provided to all the children screened. The children were provided treatment at the camp site/dental hospital/satellite centers and primary health care centers according to the facilities available.[10]

In the present study, while assessing the incidence of dental caries among school going children on the basis of gender, non-significant results were obtained. However; while assessing the incidence of dental caries with socio-economic status, significant results were obtained. Goenka P et al determined the prevalence of dental caries in children of 5 to 13 years. A total of 1,000 children of 5 to 13 year age group were examined for the study. The study population was categorized based on age, sex, location, and socioeconomic status. The examination procedure and criteria were those recommended by the World Health Organization (WHO). The data obtained from the survey were subjected to statistical evaluation using the Statistical Package for the Social Sciences (SPSS) software. The difference in the caries prevalence between the age groups and between the socioeconomic level was very highly significant ($p = 0.000$). There was a statistically significant difference observed in the prevalence of caries between the sexes ($p = 0.016$) as well as between urban and rural ($p = 0.018$). It is expected that the data obtained with the help of this survey will prove to be very useful to the concerned authorities in handling dental caries which is a biosocial disease rooted in the technology and economy of society.[11]

CONCLUSION

From the above results the authors conclude that dental caries is significantly prevalent among school going children especially among children of upper socio-economic status. However; further studies are recommended.

REFERENCES

1. Yewe-Dyer M. The definition of oral health. Br Dent J. 1993;174(7):224–25.
2. Petersen PE, Bourgeois D, Ogawa H, Estupinan-Day S, Ndiaye C. The global burden of oral diseases and risks to oral health. Bull World Health Organ. 2005;83(9):661–69.
3. Damle SC, Patel AR. Caries prevalence and treatment need amongst children of Dharavi, Bombay, India. Community Dent Oral Epidemiol. 1994;22(1):62–63.
4. Shourie KL. Dental caries in Indian children. Indian J Medical Res. 1941;29:709–21.
5. 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.
6. 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.
7. Bagramian RA, Garcia-Godoy F, Volpe AR. The global increase in dental caries. A pending public health crisis. Am J Dent. 2009;22:3–8.
8. Meyer-Lueckel H, Paris S, Shirkhani B, Hopfenmuller W, Kielbassa AM. Caries and fluorosis in 6- and 9-year-old children residing in three communities in Iran. Community Dent Oral Epidemiol. 2006;34:63–70.
9. Wondwossen F, Astrøm AN, Bjorvatn K, Bårdsen A. The relationship between dental caries and dental fluorosis in areas with moderate- and high-fluoride drinking water in Ethiopia. Community Dent Oral Epidemiol. 2004;32:337–44.
10. Hiremath A, Murugaboopathy V, Ankola AV, Hebbal M, Mohandoss S, Pastay P. Prevalence of Dental Caries Among Primary School Children of India - A Cross-Sectional Study. J Clin Diagn Res. 2016;10(10):ZC47–ZC50.
11. Goenka P, Dutta S, Marwah N, Sarawgi A, Nirwan M, Mishra P. Prevalence of Dental Caries in Children of Age 5 to 13 Years in District of Vaishali, Bihar, India. Int J Clin Pediatr Dent. 2018;11(5):359–364.