



INCIDENCE AND PREVALENCE OF EARLY CHILDHOOD CARIES IN PRESCHOOL CHILDREN-OUR EXPERIENCE

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ABSTRACT

Early childhood caries is serious and rampant form of dental caries of the deciduous teeth with multifactorial origin. Early childhood caries initiates and progresses with different age groups and varies with socio economic standards, dietary habits, parent education, family status. the aim of this study is to investigate the incidence and prevalence of ECC in preschool children of sriganganagar district of rajasthan.

KEYWORDS: Early childhood caries, preschool, incidence.

INTRODUCTION

Dental caries affects humans of all ages throughout the world and remains the major dental health problem among school children globally.^[1] It can't be completely eliminated because of complex interaction of social, behavioural, nutritional & biological risk factors that are associated with its initiation and progression.

Early Childhood Caries (ECC) is a specific form of rampant decay of primary teeth in infants. The lesions develop quickly and occur in surfaces generally considered to be at low risk for caries.^[2] The first sign of dental caries lesions in infants who develop ECC is the appearance of white demineralization areas in the cervical regions of the maxillary anterior teeth. It has been stated that ECC can be defined as the occurrence of any sign of dental caries lesions on any tooth surface during the first 3 years of life.^[3]

Nursing caries has been called by a number of names including nursing bottle caries, nursing bottle syndrome, milk bottle syndrome, baby bottle caries, and baby bottle tooth decay. The latter term has been endorsed by the Healthy Mothers-Healthy Babies coalition. The term "baby bottle tooth decay" is easily understood by non-professionals and, therefore, is useful in a program that educates parents about this condition.

In this study we assessed the prevalence of ECC among 3 to 5 year old preschool children in Sriganganagar, Rajasthan, India.

MATERIAL AND METHODS

Children in age range between 3 to 5 years with sample size of 500 were analysed from different school of Sriganganagar Rajasthan with the inclusion criteria of healthy children below age 70 months with ECC. Medically compromised children were excluded. A descriptive cross-sectional study was designed after obtaining the approval of the Institutional Ethics Committee and ethical clearance was granted. Official permission was obtained from the district education officer and also from concerned school authorities. After explaining the purpose and details of the study, a written informed consent was obtained from the parents of all children aged 3-5 years.

A discussion was done with the caregiver verbally, asking about the infant's dietary, feeding and oral hygiene habits along with the oral health knowledge and attitudes of the caregiver. The interview was followed by an oral examination by a sole examiner using a disposable mirror, wooden tongue spatula, and a torch light. The community periodontal index (CPI) probe was used to confirm visual evidence of caries on the occlusal, buccal and lingual surfaces. During the examination, the older children were seated on a chair and infant were examined with assistance of their mothers', by means of the "knee-to-knee" technique. Ninety-five percent of the caregivers who were approached to participate in the study actually participated. The modified WHO criteria⁴ for caries lesions were used to diagnose caries lesions.

RESULTS

In present study the overall caries prevalence of 500 pre school children of sriganganagar, district of rajasthan of age 3-5 yrs comprising 275 boys and 225 girls was evaluated. The caries prevalence among children whose ages ranged from 8 to 36 months, 37 to 48 months and 49 to 60 months were 33.2, 24.1 and 35.4 respectively. There was no statistically significant difference in the caries lesion prevalence between boys and girls ($P=.396$).

The parents socio-economic level was observed based on the income and education of parents. the education was categorised as below primary school, primary to secondary school and above graduation level. Similarly the income of parents was evaluated as labourer/daily wagger rupees 300 per day, state government employee/non gazetted (rupees 20,000 to 30,000/month) and state gazetted employee whose income is above 30,000/month.

Caries prevalence in association with different demographic factors:

Age (yr)	Caries Prevalence	P
3	24.1	.032
4	33.2	
5	35.4	

Gender	Caries Prevalence	P
BOYS	37.4	0.396
GIRLS	32.6	

Socio-Economics	Caries Prevalence	P VALUE
higher income	20.2	0.725
Moderate income	36.4	
Lower income	38.2	

Type of Family	Caries Prevalence	P VALUE
NUCLEAR FAMILY	32.7	0.811
JOINT FAMILY	36.2	

DISCUSSION

Early childhood caries is a devastating form of dental decay with multi-factorial origin. The aim of this study was to investigate the prevalence and related risk factors of ECC in preschool children of Sriganganagar, Rajasthan. Prevalence of ECC among the children aged between 4-5 years was higher than that of children in urban areas of banglore. Our present study showed that caries prevalence increased significantly with increase age which was similar to the study done in urban areas of banglore.^[5] This finding counteracts with the findings by Alkarimi HA, Khristine Marie G. in Philippines, Seval Olmez in Turkey and Wendt L.K. in Sweden. It was shown that the lower age is associated with higher prevalence of ECC, whereas they found that higher age is associated with higher prevalence of ECC among the children.^[6,7]

There was no statistically significant difference in the caries lesion prevalence between boys and girls which is similar to many studies conducted in Saudi Arabia and other parts of the world^[8,9,10] but the results was crosswise with the results by Abdulrahman Alshehri in Aseer Region of Saudi Arabia.^[11]

The education level of parents has been shown to be correlated with the occurrence and severity of ECC in their children.^[12,13] ECC was more common in children with parents of low income and low educational level, especially of illiterate mothers in Sriganganagar children

which was comparable to result retrieved by Babu Jose in his study done on preschool children of kerala^[14] and also in hong kong children.^[15]

Children in nuclear family were showing less incidence of caries when compared with joint family. After brief interaction with parents we concluded that in nuclear family, parents follows better diet plans, better brushing techniques and use to take periodic care of their children with dentist appointment than that of children in joint family.

CONCLUSION

In sum, the overall findings of this study showed that ECC incidence increased with increasing age of the children. The preschool children of Sriganganagar, Rajasthan are at high risk of dental caries lesions especially those who belong to a lower socioeconomic class, as measured by income, education of parents and nature of the family. This study highlights the risk factors and should be considered in all preventive health measures and promotional strategies to be taken in sriganganagar district by health authorities.

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