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THE PREVALENCE OF EARLY CHILDHOOD CARIES IN CHLDREN BETWEEN THE AGE 2-5 YEARS OLD IN DARBHANGA TOWN.

Dental Science

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ABSTRACT

Aims & objectives- To assess the prevalence of early childhood caries among children aged 2-5years in Darbhanga town.
Material & Method- A descriptive cross-sectional study was carried out among 200 school going children in darbhanga town, Bihar. Random sampling of 200 school going children were done. Caries experience was recorded and questionnaire comprising socio-demographic details and oral hygiene practices was also used.
Results- 200 children were participated in the present study. The prevalence of caries was seen in 127 children (63.5%). Also the prevalence of dental caries was found more in children of illiterate mother.
Conclusion- ECC is a serious health problem in the children under the age of 71 months or younger. Effective preventive measures should be undertaken.

KEYWORDS

Early Childhood Caries, Children, Prevalence, Preschool

INTRODUCTION-

Early childhood caries is a unique pattern of dental caries affecting very young children. It may be due to prolonged and improper feeding which leads to pain and infection necessitating hospitalization for dental extractions.[1] Even as the first primary tooth starts erupting, the oral environment can be conducive to the initialization of demineralization. The disease of early childhood caries formerly termed as "nursing bottle caries", "baby bottle tooth decay". According to American Academy of Pediatric Dentistry (AAPD), ECC is defined as "presence of 1 or more decayed (non-cavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth in a child of 71 month of or younger".[2] AAPD confirms that any sign of smooth surface caries in children younger than 3 years of age is an indicative of severe ECC.

In developing countries prevalence of ECC was found to be very high i.e. 70% approx.[3] some studies also reports the high prevalence of ECC under 5 years old child.[4]

According to the study reported by Stewart et al, more than 92% of 6 years old children had caries in their primary teeth in Northwest Armed Forces Hospitals in Tabuk.[5] Also the prevalence of caries in Jeddah was found to be 70-76% in 6 year old children.[6] Togo et al reported prevalence of caries among preschool children to be 79%.[7]
In spite of the fact that dental caries is diminishing in youth there are still a large number of children with advanced multiple carious lesion, victims of parental ignorance of nursing caries which is distinct clinical entity.

Darbhanga is a small town which comes under the state of Bihar. Since, no study showing the prevalence of Early Childhood caries has been done yet in this region and to recommend various preventive measures. The present study was undertaken to assess the prevalence of early childhood caries among 3-5 years old children of Darbhanga.

MATERIALAND METHOD-

The present study was undertaken in Darbhanga town. Total 200 students aged 2-5 years were assess for the presence of early childhood caries. Random sampling was done. Parents and caregivers of children were informed about the study and the related examination. Prior to examination, written consent was taken from their respected guardian. A pre-designed questionnaire was provided to guardian which includes information regarding child's chronological age, feeding habits, oral hygiene practice. Also the socio-demographic status and educational status of mother is also taken into consideration. Examination was performed using disposable mirror, explorer, probe, and cotton rolls. In case of very young children knee-to-knee examination was performed.

Inclusion criteria-
1. Students aged between 2-5 years
2. Presence of dental caries.
3. Children who were resident of Darbhanga town.

Exclusion criteria-
1. Children above the age of 5 years
2. Those suffering from systemic illness.

The data was collected and was analyzed for ECC prevalence.

RESULTS-

Table 1- Prevalence of Early Childhood Caries

ECC	Frequency	Percent
Present	127	63.5%
Absent	73	36.5%

Table 2- Prevalence of Early Childhood Caries in relation to gender

SEX	Frequency	Percent
Male	95	47.5%
Female	105	52.5%

Table 3- Prevalence of Early Childhood Caries in relation to age

AGE	EARLY CHILD	HOOD CARIES	TOTAL
	Present	Absent	
2-3years	72(72%)	28(28%)	100
4-5years	88(88%)	12(12%)	100

Table 4- Prevalence of Early Childhood Caries in relation to educational status of mother

Mother education	ECC Present	Total
Upto 10th	111(85.3%)	130
Graduate	19(38%)	50
Post graduate	07(35%)	20

Table 5- Prevalence of Early Childhood caries in relation to manner of feeding

Manner of feeding	ECC Present	Total
Breast	49(71.1%)	69(34.5%)
Bottle	38(64.4%)	59(29.5%)
Both	45(81.8%)	72(36%)

In our study total 200 children of different background were participated. In among 200 children, prevalence of caries was found to be in 127(63.5%) children. Regarding gender of the children, prevalence of caries in male children was found to be 47.5% which is less than that of female child (52.5%). It has been reported that the caries prevalence increases with the age as given in table 3. Also, the

prevalence of caries was found more among the mother below 10th standard i.e 85.3% in present study. The caries prevalence in relation to manner of feeding is shown in table 5. 69(34.5%) were wholly breast fed, 59(29.5%) were exclusively bottle fed and 72(36%) children had been fed by both methods. Though caries prevalence was found to be higher (81.8%) in the children who were fed by both bottle as well as breast fed.

DISCUSSION-

The dental professional has to deal with this significant public health problem which is widespread among population across the globe. It is not self limiting disease, like other disease which can be treated with a simple course of antibiotic.[8]

The global distribution of dental caries presents a varied picture in the recent years. Most of the nations which has previously low caries prevalence rate are now-a-days experiencing high caries prevalence rate. This could be due to lack of dietary habits and oral hygiene practice. Also, delayed dental visit is another factor. On the other hand, several areas shows low caries prevalence rate which is due to use of fluorides, oral health education programmes, and oral hygiene among people.[9]

Out of 200 children, about 63.5% showed caries prevalence. However, the rate of caries in male child was found to be 47.5% and in female child 52.5%.

In the present study it has been showed that prevalence of caries increases with the age which is accordance with the other studies done by Tewari S[10] and Sudha P[11] et al which has the similar finding. As the children starts growing their dietary habits and oral hygiene practices changes which in turn pose a cariogenic bacteria.

Mothers are the primary caregivers of the child. Higher parental education is related to low caries prevalence rate. The present study showed that the mother who had studied up-to 10th had significantly high prevalence rate of caries to those who are graduate and post-graduate. This finding is similar to other studies which has similar finding regarding mother education and caries experience.[12,13,14] Low level of mother education leads to lack of information regarding oral health. Also, motivating an uneducated mother was found to be a very difficult task regarding preventive health measures.

The improper feeding pattern is also responsible for an increase exposure of teeth to carbohydrate that promotes early colonization and increase in number of Streptococcus Mutans in saliva and plaque. In present study high prevalence of caries was found in a children who were fed by both method (bottle and breast). Various authors have investigated the role of breast feeding on etiology of caries.[15,16] Although breast milk is non-cariogenic, and does not contain any lactose. The evidence related to breast fed and caries has been controversial. While in some studies association between caries and breast fed was found and other authors does not find any relation.[16,17]

CONCLUSION-

ECC is a serious health problem which required immediate attention by the community. The present study showed the prevalence rate of 63.5%.

The risk of ECC is very complex which can be reduced by proper oral hygiene practices, avoiding bottle feed at night, reducing snacking between meals. There should be habit of rinsing the mouth after each and every meal.

Future health promotion and education programs should be conducted in mass level in order to reduce risk of caries.

Further studies are needed on a wider scale to establish the prevalence of ECC among larger population.

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