

Original Article

Evaluation of Effect of Parent's Dental Caries in Children Caries Status

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ABSTRACT:

Background: Dental caries is multifactorial in origin and early childhood caries is considered to be severe form of dental caries. Early childhood caries is a chronic disease which affects children. Its prevalence is five times more prevalent than asthma and seven times higher than that of allergic rhinitis. Majority of parents don't seek dental checkup for their children until there is severe pain which leads to progression of dental caries. **Aim:** The objective of this study was to study and evaluate the effect of parent's dental caries in children's caries status. **Material method:** A total of 300 parents, along with their parents were selected for the study. Children aged between 12 to 36 months were selected for the study. Children were examined for dental caries. Along with the children caries status and oral hygiene of their parents were also examined. **Result:** 38.3% children were found to be affected by caries whose parents had never attended school and only 2.6% children were affected from dental caries in case of post graduated parents. Statistical significant association was found between parent's education, annual income and child caries status. **Conclusion:** Parents oral hygiene status, education, dental caries status and feeding practices play an immense role in caries status of their children. Health education based on feeding pattern, dental visits should be provided to parents.

Key words: Early childhood caries, mother, risk factors, mother's behavior, parent's education.

Received: 15 July 2018

Accepted: 28 July 2018

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This article may be cited as: Dhawan A, Gulia S, Chahal N, Rana M. Evaluation of Effect of Parent's Dental Caries in Children Caries Status. Int J Res Health Allied Sci 2018; 4(4):30-33.

INTRODUCTION

Early childhood caries is severe form of carries which affects infants as well as toddlers.¹ dental caries at an early stage of life can have severe impact on quality of life, it can affect Child's ability to speak, self esteem is altered, etc. All this factors together can have a huge impact on Child's overall growth and development.^{2,3} According to American Academy of Paediatric Dentistry Early childhood caries is defined as the presence of 1 or more decayed (noncavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth in a child 71 months of age or younger. In children younger than 3 years of age, any sign of smooth-surface caries is indicative of severe early childhood caries (S-ECC). From ages 3 through 5, 1 or

more cavitated, missing (due to caries), or filled smooth surfaces in primary maxillary anterior teeth or a decayed, missing, or filled score of ≥ 4 (age 3), ≥ 5 (age 4), or ≥ 6 (age 5) surfaces constitutes S-ECC.⁴

According to the literature the prevalence of ECC ranges from 1% to 12% in preschoolers of developed countries and from 50% to 80% in high-risk groups.^{5,6,7} According to the American Academy of Pediatric Dentistry infants and toddlers whose mothers have high levels of mutans streptococci are at a higher risk for acquiring the organism than the children whose mothers have lower levels.⁸ ECC has been associated with demographic characteristics, oral hygiene practices, parental attitude. So in present study we aimed to study the effect between parents dental caries in caries status of their children.

MATERIAL AND METHOD:

A total of 300 patients with aged between 12 to 36 months of age along with their parents were included for the current study. All the samples were selected randomly. Out of 300 patients 140 were males and 160 females. Samples were distributed according to age. Ethical committee clearance was obtained before starting the study. Parents accompanying child were explained about the nature and purpose of the study. A written informed consent was obtained from the patient before any procedure.

Inclusion criteria:

1. Children aged between 12 to 36 months
2. Presence of at least 2 caries incisors

Exclusion criteria:

1. Children suffering from systemic disease
2. Parents not willing to participate
3. Mentally challenged children

Thorough examination of oral cavity was done for both child and parents using mouth mirror and explorer. Findings like presence of caries, missing tooth, filled tooth were recorded. Gingival bleeding score was used to assess condition of gingiva. A questionnaire was prepared in bilingual language (Hindi and English) and distributed to parents. The questionnaire included a series of questions regarding the child's chronological age, socio-economic status, educational status of parents, feeding habits and oral hygiene practices.

STATISTICAL ANALYSIS: Each variable were analyzed and A *p*-value <0.05 was considered statistically significant. Data was analyzed by specific statistical software (IBMSPSS V10 STATISTICS, IBM, ARMONK, USA).

RESULT:

Table 1: Patient's demographic value

Mean age	12 to 36 months	Percent
Males	140	46.6
Females	160	53.3%
TOTAL	n = 300	100%

Table 2: Distribution of children according to age group

Groups	Frequency	Percentage
12-18	60	20%
19-22	72	24%
23-26	48	16%
27-30	46	15.3%
31-36	74	24.6%
Total	300	100%

A total of 300 children along with their parents were examined for the present study.

All the 300 patients included were affected from caries. Of the 300 patients 140 were males i.e. 46.3% and 160 were females i.e. 53.3% (Table 1). Based were divided based on age, 60/300 children were aged between 12 to 18 months i.e. 20%, 72/300 were aged between 19-22 months i.e. 24%, 48/300 were aged between 23 to 26 months i.e. 16%, 46/300 were aged between 27-30 months i.e. 15.3% and 74/300 were aged between 31-36 i.e.24.6% (Table 2).

Based on the questions interviewed it was found that 116/300 children of parents whose annual income was less than 50,000 Rs were affected from caries i.e. 38.6%. 23% children were affected from caries whose parents income was in between 50,000 to 1 lakh, 36% children were affected whose parents earned 1 lakh to 2 lakh and only 2.3% children were found to be having caries whose parent's annual income was more than 2 lakh. Majority of the children were affected by caries whose parent had low socioeconomic status i.e. 38.6% (Table 3).

38.3% children were found to be affected by caries whose parents had never attended school. 34% of children were found to have caries tooth whose parent's education status was till primary school, 15% in case of parents educated till higher secondary, 10% children were found to have caries teeth whose parents were graduated. However only 2.6% children were affected from dental caries incase of post graduated parents (Table 4). In present study a significant association was observed between parent's education and children caries.

75% children were bottle/ breast feed during night, 70% children had a habit of feeding on demand, 58% children preferred breastfeeding whenever they wake up in night and 45% children had an habit of sharing food and utensils with their patents (Table 5). Out of 300 children 80 had habits of taking milk 2-5 times at night, 160/300 reported a frequency of 5 – 10 times and 60/300 reported more than 10 times (Graph 1).

Table 3: Association of caries to socioeconomic status of parents

GROUPS	ANNUAL INCOME	CARIES AFFECTED	PERCENT
Group 1	< 50,000 Rs	116	38.6%
Group 2	50,000 Rs to 1 lakh	69	23%
Group 3	1 lakh to 2 lakh	108	36%
Group 4	>2 lakh	7	2.3%

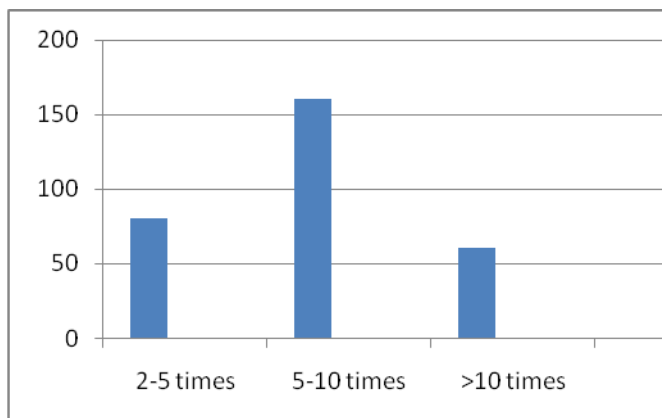
Table 4: Association of caries to education status of parents

PARENTS EDUCATION	CARIES AFFECTED	PERCENT
No schooling	115	38.3%
Primary school	102	34%
Higher secondary school	45	15%
Graduation	30	10%
Post graduation	8	2.6%

TABLE 5: EATING HABITS OF CHILD

Feeding during sleep (bottle/breast)	75%
On demand feeding	70%
Wakening up during sleep and feeding	58%
Parents sharing same food and utensils with child	45%

Graph: 1 Distribution of frequency of eating habits



who take bottle to bed are more likely to be affected by ECC.^{10,11} Of the 300 patients 46.3% were males and 53.3% were females. Based were divided based on age, 60/300 children were aged between 12 to 18 months i.e. 20%, 72/300 were aged between 19-22 months i.e. 24%, 48/300 were aged between 23inpresent study 24% children were aged between 19-22 months and 24% were aged between 31-36. Studies in the past have increased caries experience with age. Our study is in agreement with those reported by others,¹²

Study conducted by Berkowitz suggested that increased level of s mutans was observed in children suffering from early childhood caries.¹³ however s mutans level was not observed in our study. Studies have shown that socioeconomic status of parents has a major role in ECC. In present study majority of the children affected by caries were those whose parent had low annual income less than 50,000i.e. 38.6%. In our study it was found that higher the income lesser caries in children, our study is in accordance with other studies with similar observation.^{1,6}

Various studies in the past have reported that low maternal education is related to higher caries prevalence in their children.^{6,14} In present study a significant association was observed between parent's education and children caries. 38.3% children were found to be affected by caries

DISCUSSION:

Importance of oral health is often overlooked. Studies have suggested that dental health status of the pre-school child should be considered as the first step in an ongoing process because preventive practices established during the first year of life is an important determinant of dental health several years later.⁹Early childhood caries is the form of caries which affects maxillary incisors and Mandibular molars. Early childhood caries is multifactorial in nature. Various studies in past have reported that those children

whose parents had never attended school and only 2.6% children were affected from dental caries in case of post graduated parents.

In present study it was observed that 75% children were bottle/ breast feed during night, 70% children had a habit of feeding on demand, 58% children preferred breastfeeding whenever they wake up in night and 45% children had a habit of sharing food and utensils with their parents. Some authors have suggested that bottle feeding at night is one of the important risk factor of ECC. We are in agreement with the authors.¹⁵ Berkowitz in his study reported that *S. mutans* has the ability to adhere in spoons and other utensils so sharing same utensils have shown to cause increased level of *S. mutans* in children whose mothers are affected by caries.¹⁶

CONCLUSION:

Most mothers are unknown of early childhood caries and uninformed about caries. In the proximity of our study it has been found that maternal caries are linked with early childhood caries. Proper information in early childhood caries can lessen the risk of it. Information and programs regarding prevention of caries can be fruitful to mother and children. In our study we have found that risk factors of early childhood caries can be listed as low paternal education low socio-economic status, improper feeding and oral hygiene habits.

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Source of support: Nil

Conflict of interest: None declared

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