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Assessment of Maternal Risk Factors for Dental Caries in Children: A Cross Sectional Study

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ABSTRACT

Background: Youngsters who have caries in their deciduous teeth in earliest stages or toddlerhood tend to create dental caries in their perpetual dentition. In spite of the fact that hazard markers are useful in recognizing bunches at chance, they give little data about the reasons for contrast in caries experience. Certain factors in moms could be risk indicators in their youngsters. Henceforth, this examination was attempted to evaluate maternal risk indicators for the improvement of early adolescence caries in children.

Materials and methods: A total of 130 child–mother sets partook in the examination and they were divided into study and control group. The maternal hazard factors were evaluated by a pretested survey. After acquiring the assent, the moms and their youngsters were clinically analyzed for dental caries. Non stimulated Saliva was gathered from all the taking an interest moms for surveying the Streptococcus mutans level.

Result: In the study group, 67% of moms had caries when contrasted with just 46% moms in control group. While mean DMFT and of moms in the examination gather was 4.81 ± 3.12, individually, the same for the moms in the control gather was 2.01 ± 2.89. 46 out of 65 moms in the contemplate bunch had a high MS consider contrasted with just 24 moms in control gathering. Critical contrasts were found in moms' caries activity, increase levelof S. mutans, educational level, financial status, recurrence of maternal sugar utilization, and their kid's caries encounter.

Conclusion: The present investigation demonstrated that high salivary MS include and decay in mothers could be vital hazard markers for the improvement of caries in their youngsters.

Keywords: Dental caries, Children, Risk, Environment, Genetic.

INTRODUCTION

Dental caries influences kids and grown-ups alike everywhere the world. It is a malady of the poor and of the rich. To a great extent preventable, it remains the most pervasive incessant infection among youngsters with a critical effect on people, families and society. It has of late been revealed that 2.4

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billion individuals all inclusive have untreated dental caries [1]. More than 38 % of preschool and essential school youngsters in Western industrialized nations furthermore, other center salary nations, encounter a high pervasiveness of dental caries. In spite of advance made in caries control throughout the years by the defensive impacts of fluoride, expanded endeavors in oral wellbeing advancement, broad wellbeing instruction, and noteworthy advances in treatment alternatives, dental caries remains the most well-known perpetual adolescence disease.[2,3]

Oral health of the mother can influence the general and dental health of the youngster amid the perinatal life. A mouth disease can prompt general medical issues like untimely birth and low birthweight putting the unborn infant at genuine danger of life and furthermore certain oral ailments like 'early childhood caries' (ECC).[3] Many variables are related with Caries. These incorporate the presence of plaque, poor oral cleanliness, expanding age, sex, and the recurrence and timing of utilization of sugar-containing drinks.[4] Other announced related factors are nighttime breastfeeding and delayed length of breastfeeding , however a few creators have scrutinized this affiliation. Other hazard factors incorporate the nearness of enamel hypoplasia, molar-incisor hypomineralisation, and the youngster's financial status . Numerous maternal components that may incline kids to ECC are kids' oral-cleanliness conduct, baby encouraging practices, maternal learning of oral cleanliness rehearses, maternal nourishment and maternal stress.[5]

Cariogenic or decay causing microscopic organisms are commonly transmitted from mother or parental figure to kid by practices that specifically pass saliva, for example, sharing a spoon when tasting infant nourishment, cleaning a dropped pacifier by mouth, or wiping the child's mouth with saliva.[6,7] Along these lines, moms who themselves have encountered broad past or current caries have an especially solid need for guiding on the best way to anticipate youth caries.[8,9] Besides, selection of reliable behavioral propensities in youth happens at home, with the guardians, particularly the mother, being the essential shapes for conduct. Hence, this study was undertaken with the objective to associate the maternal risk factors with caries among 3–5-year old school children.

MATERIAL AND METHODS

A cross sectional investigation was planned among 130 mother-child sets going to different Anganwadi centers of India. The investigation was affirmed by the Institutional Ethical Committee. Informed assent was acquired from moms to inspect them and their youngsters. One hundred and thirty youngsters; age 3–5 years going to different Anganwadi centers were picked and incorporated into the examination.

Out of 350 youngsters, subsequent to applying the consideration and avoidance criteria, an aggregate of 130 mother-kid sets were incorporated. 65 youngsters with at least one carious lesion forms study group alongside their moms, and 65 caries free kids were included in control group alongside their moms. Youngsters or, on the other hand moms experiencing systemic ailments, on chemotherapy or radiotherapy, on long term oral drug, or who had expended anti-infection agents in the recent months were barred from the investigation. Data on statistic and different components was gotten from moms through a meeting utilizing an organized survey.Youngsters and their moms were analyzed on an common seat utilizing mouth mirror and group periodontal probe and caries encounter was recorded utilizing DMFT index. Moms were designated into study and control bunches solely on the caries status of their kids.

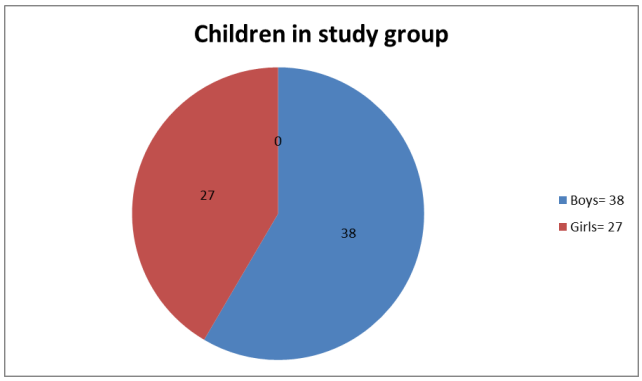
Entire unstimulated saliva was gathered from moms furthermore, refined on MSB agar plates were incubated at 37°C for 48 h and colony framing units were tallied. Obtained data was then analysed.

RESULTS

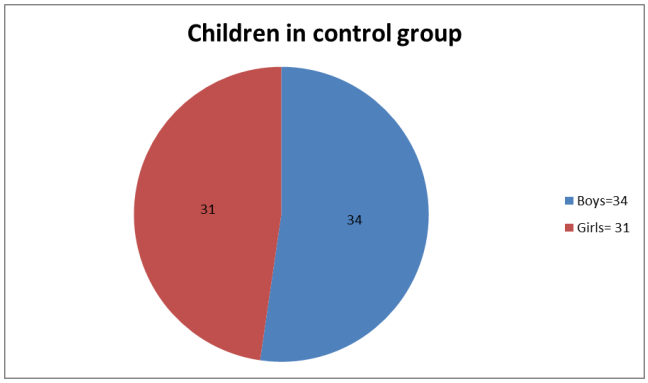
An aggregate of 130 youngsters (65 cases and 65 controls) partaken in the investigation, among which 27 girls and 38 boys were in case/ study group and 31 girls and 34 boys had a place with control gathering. There was no noteworthy distinction between kids with caries and youngsters without caries with respect to gender. In the study group, 67% of moms had caries when contrasted

with just 46% moms in control group. The kids and their moms were appropriated by the number of carious teeth. The demographic details of mother is given in table no 2.

Among the cases, mean DMFT was 4.81 ± 3.12, separately, the same for the mothers in the control assemble was 2.01 ± 2.89. Contrast between mean number of carious teeth of moms in the study group and mean number of carious teeth of moms in control group was factually noteworthy .A direct positive connection between's number of caries influenced teeth of moms also, number of caries exposed teeth of kids was likewise observed.



Graph 1: Children in study group.



Graph 2: Children in control group.

Table 2: Demographic details of mother

Variable	Study group(n=65)	Control group(n=65)
Age(years)	42.3±5.8	45.7±4.6
Education level Illiterate High school Graduated	 5 51 9	 2 49 14
Occupation		
Homemaker Working	53 12	21 44
Socioeconomic status Lower class Middle class Upper class	 25 34 6	 12 29 24
Frequency of tooth brushing Once Twice	 57 8	 27 38
Frequency of dental visit Never Whenever needed Once/year	 24 32 9	 7 27 31
DMFT score	4.81 ± 3.12	2.01 ± 2.89
Number of S. mutans in saliva <50 cfu >50 cfu	 19 46	 41 24

DISCUSSION

An analysis of caries experience in recent years, especially in developing countries, demonstrates that a significant proportion of infants and preschoolers are still affected by the disease with a strong polarization. Untreated decayed teeth dominated the DMFT score among the children in this study indicates a high rate of unmet treatment needs.

The risk of caries was significantly higher for children with mothers who had poor knowledge of oral health, never visited dentist, less frequency of brushing and with poor socioeconomic status.[10,11]The prevalence of caries among boys and girls in this study did not show any statistically significant difference. This may be because at this early age, dietary and oral hygiene practices related to dental caries are mostly controlled by parents / caregivers.[12] Cariogenic bacteria are typically acquired by young children through direct salivary transmission from their mothers. Factors influencing transmission are the levels of these bacteria in maternal salivary reservoirs, frequency and efficiency of transmission, the child's

receptivity to implantation, timing of transmission, which is affected by the window of infectivity and the age of the child, and the composition and flow of the child's saliva.[13]

Low financial status and low maternal instruction are ordinarily connected with monetary and familial stresses that place a child risk for ECC. Recurrence of dental visit, maternal sugar utilization, oral cleanliness rehearses, have likewise been connected to adolescence caries by a few past studies.[14,15] However, in the present examination, association was found among moms of two groups as for their recurrence of dental visit, sugar utilization, or oral cleanliness practices. This could likewise be ascribed to the normal foundation of low financial status among moms of two gatherings. The two maternal qualities which were related with caries in their youngsters in the show consider were the caries experience and levels of salivary MS.[16]

Mean DMFT score was fundamentally high among moms of study group when contrasted with moms in controls. This is as per the consequences of some studies.[17-19] Furthermore, moms in study group had more missing teeth than their control partners. This could be suggestive of carelessness toward their and their youngsters' oral wellbeing. The mother's training level and caries pervasiveness in this examination were conversely relative and comparative with different investigations done by Owusu et al.[20], Dini et al.[21], Sabbah et al.[22] This examination additionally agrees with the discoveries given by Hallet and Rourke[23] who detailed that youngsters from low financial status are probably going to have more ECC at preschool age. The contrast between ECC encounters among kids with respect to mother's instructive level could be credited to absence of information and mindfulness of moms with respect to dental wellbeing, oral cleanliness practices, and feeding practices. The acknowledgment that maternal instruction is a solid determinant of adolescence caries affirms that oral wellbeing can't be accomplished without educational policies in developing countries.[24]

Promotinging toothbrushing in preschool kids is of incredible importance since this is a approach to support dental wellbeing by keeping up clean teeth. The limitation of the investigation was that a few moms furthermore, youngsters may have been misclassified as caries free as examination was done with least instruments and lighting on a common seat. The example of sugar utilization is another range where there could have been an inclination as shape, consistency, and time of admission were not recorded.

CONCLUSION

The present examination demonstrated that dental caries and high salivary MS numbers in moms could be vital chance pointers for the improvement of caries in their kids. Nonetheless, point by point longitudinal examinations would be required to better clarify the impacts of these maternal hazard pointers on advancement of adolescence caries.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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