

Relationship between Milk Consumption and Dental Caries in Children Aged 0-5

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Abstract:

Topic: Relationship between milk consumption and dental caries in children of ages 0-5.

Aim: To detect the possible relationship between milk consumption and dental caries in children aged 0-5 years.

Objective: To increase awareness about the association between milk consumption and prevalence of dental caries in children of age's 0-4years.

Background: Tooth decay is the destruction of your tooth enamel, outer layer of teeth. Bacteria in plaque produce acids that attack tooth enamel. Milk is a major source of sugars in our diet. In fact, it is the primary source for infants. Dental caries is a very common and frequently encountered dental problem found in children.

Reasons: Dental caries are the most commonly faced problems in children. However the knowledge about the association of milk and caries is widely studied.

Result: Caries was most common in children between the ages 4 and 5. And children that had milk bedtime were more susceptible to caries in the primary teeth.

Key words: caries, primary teeth, milk

INTRODUCTION:

Dental caries is the most common chronic *infectious disease* of childhood, caused by the interaction of bacteria, mainly *Streptococcus mutans*, and sugary foods on tooth enamel. *S. mutans* can spread from mother to baby during infancy and can inoculate even pre-dentate infants. These bacteria break down sugars for energy, causing an acidic environment in the mouth and result in demineralization of the enamel of the teeth and dental caries.[1]

Dental health is neglected by a vast majority of population. In the developing countries like India the prevalence of dental caries is very high particularly among the children and adolescents. The prevalence is even higher in rural people and among school children. The absence of practice of healthy habits leads to this type of problem [1]. Individuals are susceptible to this disease throughout their lifetime.

The disease develops in both the crowns and roots of teeth, and it can arise in early childhood as an aggressive tooth decay that affects the primary teeth of infants and toddlers.

[2] ECC can be a particularly virulent form of caries, beginning soon after dental eruption, developing on smooth surfaces, progressing rapidly, and having a lasting detrimental impact on the dentition. Children experiencing caries as infants or toddlers have a much greater probability of subsequent caries in both the primary and permanent dentitions. Dental caries is an important Dental Public Health Problem and it is the most prevalent oral disease among children in the world. The prevalence of dental caries is of great interest for long and is a principal subject of many epidemiological researches carried out in our country and abroad. [3].Early Childhood caries can begin early in life, progresses rapidly in those who are at high risk, and often goes untreated.[3,4] Its consequences can

affect the immediate and long-term quality of life of the child and family, and can have significant social and economic consequences beyond the immediate family as well. The term "early childhood caries" was suggested at a 1994 workshop sponsored by the Centres for Disease Control and Prevention in an attempt to focus attention on the multiple factors (i.e. socioeconomic, behavioural, and psycho-social) that contribute to caries at such early ages, rather than ascribing sole causation to inappropriate feeding methods.[7] Dental caries cannot occur without the substrate component of sugar. Therefore, much of the professional advice and practical research has focused on modification of the infant diet and feeding habits through education of the parents.[8,9] Even today, there are parents who believe dental care is not needed for pediatric patients as the teeth are about to shed. They lack the knowledge that their negligence about untreated rampant caries or half-done dental procedure leads to various other complications.[13]

MATERIALS AND METHODS:

Study area and study population: The study was conducted in the Thiruvallur region of Chennai, Tamilnadu. The area is considered as a rural area. All the children included in this study were between the ages 0-5 and were selected at random. The age group selected for this study was 0-5 years of age and at this age at least 2 central incisors erupt and it has also been established that mutans streptococci can be found in the mouth from as early as 6 months of age, even prior to tooth eruption.^[10] All children were included in the study after obtaining informed consent from the mother. Not all individual data sets were complete and those with missing data sets were excluded from the modelling step. 100 Parents completed a dental health

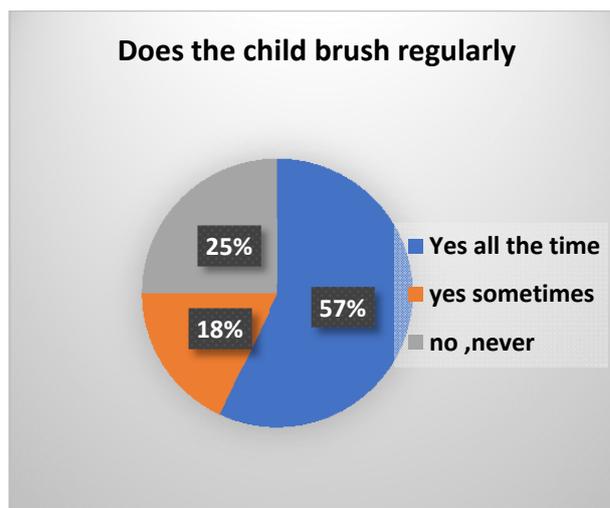
questionnaire which included a set of 16 questions regarding the child's chronological age, milk consumption habits and oral hygiene practices.

RESULTS AND DISCUSSIONS:

Majority of the children were between the age group of 4-5 years. 78% of the study population was between the age group of 4-5 years, 15% were in the age group 2-3 and 7% were in the age group of 0-1 years. The questionnaire contained questions about the habits and practises regarding dental health as well as milk consumption habits. 57% of the children brush regularly, 25% of them brush occasionally, not daily and 18% of the children do not have the habit of brushing every day. The children were asked about the habit of gargling their mouth after consuming milk. It was found that majority (78%) of the children do not gargle their mouth after having milk. 14% of them gargled sometimes and only 8% of the children gargle their mouth regularly after having milk.

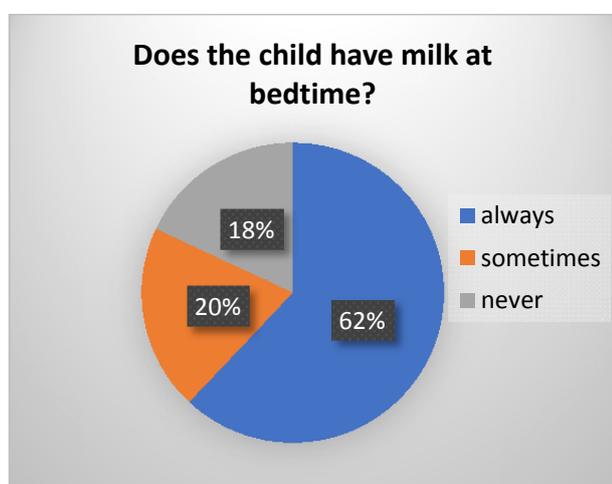
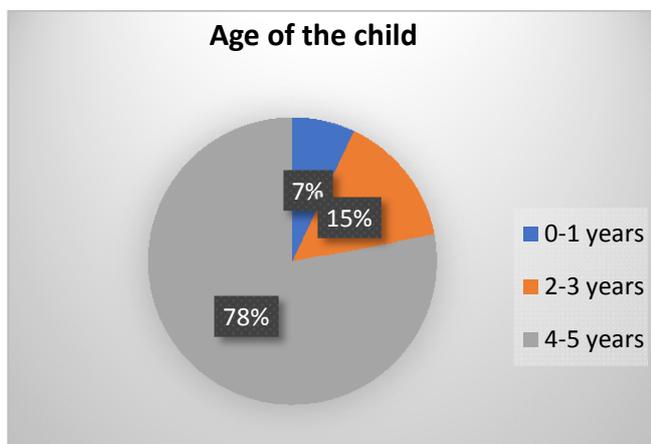
Children were asked about the way they drink milk and 72% of them consumed milk through a glass, whereas 18% of them had milk using a straw and only 10% of them used milk bottles. 20% of the children had milk at bedtime occasionally, 18% of children never drank milk at bedtime, but majority (62%) of children drank milk at bedtime.

According to the results, 60% of the population have untreated dental caries, 21% of them never had caries and only 19% of them have treated dental caries.



CONCLUSIONS:

The oral health of pre-schoolers is an overlooked aspect of childhood health and well-being, especially in cases of ECC. Similar to the results of the previous studies, our present study also showed that caries prevalence increased significantly with age. [11]. The present study found that the prevalent of dental caries was higher amongst children who did not gargle their mouth after having milk. Children were asked about their gargling and brushing habits and it is revealed that those who gargle their mouth and brush their teeth regularly had significant less prevalence of dental caries as compared to those whose brushing and gargling habits are not regular. The early identification of poor oral hygiene and improper feeding habits should be considered in preventive health promotion strategies in low socio-economic communities.[11] Inappropriate use of baby bottle has a central role in the etiology and severity of ECC. The rationale is the prolonged bedtime use of bottles with sweet content, especially lactose. Most of the studies have shown significant correlation between ECC and bottle-feeding and sleeping with a bottle.[4-6] Dental caries prevalence could be because of negligence or lack of awareness about the importance of primary teeth. The increase in caries would be due to lack of dental awareness, improper brushing techniques, improper dietary habits, ignorance, and lack of motivation. Parents and teachers must be encourages to devote sufficient time for dental health education programs and diet counselling.[12]



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