



Review Article

Maternal Factors and Child Oral Health

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ABSTRACT

The mother is an important figure in the family and usually considered as the cornerstone. Mothers age, domicile, education level, employment, level of anxiety, oral health knowledge, pattern of dental care utilization and her oral health status affect child's teeth, and his/her pattern of behavior and attitude towards oral health.

Key Words: Maternal, Child Oral Health, Oral Health.

Key Messages: In developing oral health promotion programs for children and adolescents, the considerable potential of mothers should be a major focus of oral health professionals.

INTRODUCTION

Women's health and level of health knowledge affect the health of their own child and families. [1] She is an important figure in the family and usually considered as the cornerstone of her family. Even though everyone in the family can affect the behavior of a child, the mothers influence is usually the most important as she is primary caretaker of the child and plays important role in helping the child to develop expected behavior patterns. In 1989, there was a four-day workshop in Washington entitled "Equity and access for mothers and children" where women's oral health has been linked to children under the umbrella of "Oral health of mothers and children". [2] Although, there are many studies which has supported the association of child oral health to mothers age, domicile, education level,

employment, level of anxiety, oral health knowledge, pattern of dental care utilization, [3] the dental professional still ignores the involvement of mother in her child oral treatment planning. Hence, I have taken an opportunity to review this topic and refocus on the association of maternal factors on child oral health.

Mother's age

Age of pregnancy has important impact on child oral health. Children of younger mothers are said to experience caries to a greater extent than those of mothers who are older. [4] It has also been found from previous studies that young mothers pay least attention to the dental health and cleaning of the child's teeth. [5] The only reason which could be correlated to this is the inexperience of these mothers and inability to understand and

relate to the importance of child dental health.

However, no association between the mother's age and the dental caries experience of the child has also been reported. [6]

Mother's level of education

Previous studies suggest maternal educational attainment to influence dental health of children; those having higher educational qualification, are reported to have children with better dental health. [6,7,8-10] This can also be supported by the study where strong relationship has been observed between the DMF score of children and the mother's education. Caries being higher in children of mothers with low educational level. [11] The only reason which can be quoted here is education improve awareness and understanding of health related issues. Higher the educational attainment of mothers, better the dental health practices of the child as regards to use of tooth brush and tooth paste, timing of tooth brushing and consumption of sugary foods.

In contrast to the previous findings, literature is there which shows no association between mother's educational level and child's dental caries. [6]

Domicile of residence

Domicile of residence has also shown to effect dental health status of the children. Studies have reported children of rural areas to have higher level of caries [5] and less favorable dental health practices. [4] In contrast to this, a investigation done on rural children in Lahore. Rural children were observed with less caries experience than their urban counterparts, in spite of less reported use of brushes or pastes by their mothers than that reported for urban children, and also less favorable timings for tooth cleaning for the children. [6]

Mother employment

Findings from the UK Millennium Cohort Study showed that children whose

mothers worked were more likely to primarily drink sweetened beverages between meals. [12] This pattern of sugar consumption is strongly associated with dental caries, dental pain and, consequently, impacts on daily life of child.

Mother anxiety

Klingberg et al. found that child dental fear is related to general fears, mother's dental fear and child's age. [13] He reported in 1994 that prevalence estimates of children who are afraid of visits to the dentist vary and can be as high as 43% depending on the methods and populations surveyed. [14]

Observations by researchers have revealed that children with high dental anxiety had mothers who had previous negative dental experiences and were scared of dental treatment. [15] A mother who bears anxieties as a result of her own previous dental experience can transmit it to her offspring and this may produce a phobia of dental treatment in the child with preconceived notions even before the actual visit. [16] In the light of the findings of this study, it is pertinent for dentists in this environment and similar ones to enquire about these experiences and where it has been traumatic, it is important that they should educate, counsel and allay fears which may have persisted in such parents for years. This will help reassure the parents as the mothers cooperation will be needed in order to provide children with the best dental care.

Mothers' oral health knowledge and attitudes

Mother's oral health knowledge per se had no effect on children's sound dental health, but an additive effect with mother's attitudes is seen. It has been found that mothers' positive oral health-related attitudes leads to better oral cleaning habits

in children i.e twice-daily tooth-brushing behavior. [17]

Mother dental attendance

Mothers' dental attendance pattern is known to be an important indicator of dental attendance and oral health in young children. [18,19] Mothers who had visited the dentist recently were likely to have registered their pre-school children with the dentist and had followed regular dental check-up of the child. It has also been found that adult dental attendees were more likely to have been taken to the dentist frequently during childhood. [20] Hence, It is suggested to build an habit of regular dental check-p from childhood.

Maternal Oral Health- Implication for birth outcomes and infant oral health

It has been found that maternal periodontal disease, that is, a chronic infection of the gingiva and supporting tooth structures, has been associated with preterm birth, development of preeclampsia, and delivery of a small-for-gestational age infant.

In 1996, Offenbacher and colleagues first reported a potential association between maternal periodontal disease and delivery of a preterm/low birth weight infant. Dasanayake et al. studied 55 pairs of women. Logistic regression indicated that mothers with 'healthy gingiva' were at lower risk for low birth weight infants. Additionally, Jeffcoat et al. examined the relationship between maternal periodontal disease and spontaneous preterm birth among 1313 pregnant women, and found that moderate/severe maternal periodontal disease identified early in pregnancy was associated with an increased risk for spontaneous preterm birth, independent of other traditional risk factors. [21]

Hence, early studies led to the hypothesis that periodontopathic bacteria,

primarily Gram-negative anaerobes, may serve as a source for endotoxin and lipopolysaccharides, which then increases local inflammatory mediators including PGE2, and cytokines, and that this increases systemic inflammatory mediators that can then lead to preterm birth.

It has also been found that there is transmission of oral flora from mother to child. Previous study has supported that cariogenic bacteria are typically acquired by young children through direct salivary transmission from their mothers. [22] Additional factors which affect this transmission include timing of transmission (which is affected by the window of infectivity), age of the child, composition and flow of the child's saliva. For this reason, mothers who have themselves experienced extensive tooth decay and therefore most likely harbor high titers of mutans streptococci in their saliva will more effectively transmit this infection vertically, thereby putting their young children at elevated risk for early childhood caries.

Hence, it is intriguing to consider preconception, pregnancy, or intrapartum treatment of oral health conditions as a mechanism to improve women's oral and general health, pregnancy outcomes, and their children's dental health.

CONCLUSION

Maternal factors has influence on oral health of the child, hence every attempt should be made to involve mother in oral health programmes for better oral health of child.

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