

Promoting infant oral health (IOH) care in India

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Abstract

Promoting infant oral health (IOH) care is a challenge in India because majority of the population live in rural areas where there is a lack of pedodontists and other dental work forces. The physicians are the first health professionals to come in contact with the expectant parents and parents of infants. For this, the physicians need to be well informed on preventive dental care for an infant. This will enable the physicians to give adequate counseling and dental care; provide early interpretation and prevention of oral diseases; and to make appropriate referrals as and when required to address the serious problems of disparities in obtaining access to professional dental services.

Key words: Dental Caries, Infants, Oral Health, Prevention, Promotion

Introduction

Infant oral health (IOH) is the foundation upon which preventive education and dental care must be built to enhance the opportunity for a life time free of preventable oral diseases¹. Parents are decision-makers in matters of children health and healthcare, thus they play an important role in achieving the best oral health outcomes for their young children. Considering parent's important role in the well being of young children, it is essential to explore their knowledge, attitude, and beliefs as it affects the dental care children receive at home and their access to professional dental services. Also, their assumptions and beliefs may be important considerations in attempts made to improve IOH².

Expectant mothers and oral hygiene

Mothers play an important role in families; they determine many of the behaviour their children will develop in the future. Education on the prevention of oral diseases imparted to pregnant women is fundamental to the introduction of good oral habits in their children. It has been reported that the children of mothers who have received such health education during their pregnancy have better oral health status^{3,4}. During pregnancy, women are more inclined to receive and accept new information and assume responsibilities. However, especially in underprivileged communities, the majority

of pregnant women get no instruction during pregnancy regarding oral health⁵.

Physicians and oral health

Physicians are the first health professionals to come in contact with the expectant parents and parents of infants⁶. Hence, integrating oral health disease prevention and promotion strategies into these healthcare professionals practice would improve access to dental care, especially for the poor and the minority children who suffer disproportionately from dental caries and who have limited access to dental care⁷.

The strategy of utilizing primary care medical providers to promote oral health is particularly necessary in rural regions where there are few dentists and even few pediatric dentists which compound the problem of obtaining access to dental care⁷. In India 80% of the population lives in rural area and studies have shown that physician's body of knowledge in the area of IOH is less than adequate and it is unclear to what degree these healthcare professionals are knowledgeable about preventive dental care for IOH and at the same time to what level they impart preventive dental counseling⁷⁻¹⁰. Increasing knowledge of medical students will facilitate establishment of good feeding and oral hygiene

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practices that will enable to minimize the risk of caries development. Medical and dental students should be taught about the benefits of prenatal counseling of parents.

Care during pregnancy

The expectant mother should be informed that by the end of the first trimester, all of the fetus' primary teeth begin to form, and that at birth, all 20 primary tooth crowns are almost completely formed. To ensure the development of sound enamel and dentin, all that is required is a well balanced diet. Prenatal calcium or fluoride supplements do not provide any real benefit to the developing teeth, since the period of crown mineralization is mostly postnatal¹¹. Unless it is absolutely necessary, tetracycline should not be prescribed to the mother because it will cross the placental barrier and produce characteristic staining of the primary teeth; the permanent teeth, however, will not be affected. The prospective mother should be advised to obtain all preventive and restorative dental care, except x-rays, for the treatment of caries during her pregnancy but to postpone any elective treatment until after the birth of her baby¹².

The association of poor maternal oral health to pre-term / low birth weight baby has been documented. Maternal transient bacteremia seen as a result of gingivitis/marginal periodontitis produces inflammatory effect to the placental membranes, thereby inducing pre-term labor. Thus, periodontal therapy during pregnancy can reduce the risk of prematurities¹³. Enamel defects are more common in children born prematurely, thus making these teeth more susceptible to early childhood caries¹⁴.

Oral health care of infants

Mutants streptococci typically originate in the mother¹⁵ and are transmitted to the child via saliva contact. Elevated maternal levels of mutants streptococci, due to active or untreated caries and frequent sugar consumption increase the risk of transmission¹⁶. In addition, recent evidence suggests that exposure to environmental tobacco smoke increases the likelihood of streptococci colonization in children¹⁷. Maternal oral health should be monitored after delivery because decreasing maternal mutants streptococci level can reduce infant colonization and subsequent caries risk.

Any practice that allows frequent sugar consumption in the presence of mutants streptococci may result in caries formation¹⁸. Common contributing etiological practices in children include propped bottles containing sweetened liquids, frequent consumption of sweetened liquids from infant cups and frequent snacking. The medical personnel should counsel the parents about the correct weaning period. An infant should be weaned from breast

/ bottle by 12-14 months of age and introduction to semi solid foods can begin at 6 months. The dangers of the use of pacifiers, sweetened liquid /fruit juice in bottle at night should be stressed to the parents.

In addition to providing nutritional, immunological and psychological benefits, breast-feeding has positive effects on the development of the infant's oral cavity. Systematic reviews have shown strong evidence in favor of this practice¹⁹⁻²¹. WHO recommends that infants be exclusively breast-fed for the first 6 months of life with some breast-feeding continuing for upto 2 years of age or beyond^{21,22}.

With the combination of proper diet, early oral hygiene and systemic and topical fluorides, we can promote a generation of caries-free children, providing that the dental – care program be initiated at or before the eruption of the first primary teeth. Parents are educated that milk teeth need dental care like the permanent teeth. Parental counseling about providing non cariogenic food in between meals like water / plain milk/ fresh fruits is done to decrease the incidence of dental caries. The role of fluoride in caries prevention is stressed as optimal fluoride exposure is essential for all dentate infants and children²³. Preventive dental care should start early in infancy, during the first year of child's life to ensure successful outcomes.

In countries like India, where there is a lack of pedodontists and other dental workforces in rural areas, the provision of infant oral health (IOH) care is a challenging issue. To overcome these difficulties, it is mandatory to educate the medical and health care professionals about IOH care. This would improve access to dental care, especially for the poor and the minority children who suffer disproportionately from dental caries and who have limited access to dental care.

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