REVIEW

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The Strategic Role of Paediatricians in Protecting Children's Oral and Dental Health

Çocuklarda Ağız ve Diş Sağlığının Korunmasında Çocuk Doktorlarının Stratejik Rolü

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Abstract

Dental caries and oral health problems are a major public health concern in our country and around the world. Society needs to improve tooth brushing habits, reduce sugar and carbohydrate intake and provide adequate fluoride to achieve dental and oral health goals. Additionally, we must reach out to disadvantaged and socio-culturally backward populations. Although scans that detect the issue could be significant, tooth brushing sessions with role models who turn behavioral changes into habits are even more crucial in solving the problem. Families should be taught the triangle of brushing teeth, reading books and then sleeping.

Keywords: Children, dental caries, tooth brushing, oral health

Öz

Diş çürükleri ve ağız sağlığı problemleri ülkemizde ve dünyada bir global halk sağlığı sorunu olarak kendini göstermektedir. Diş ve ağız sağlığı hedefleri, toplum çapında diş fırçalama alışkanlığının geliştirilmesi, şeker ve karbonhidrat ağırlıklı beslenmenin azaltılması ve gerekli flor desteği ile sağlamak mümkündür. Bunun yanında dez avantajlı sosyo-kültürel olarak geri kalmış kitlelere de mutlaka ulaşılmalıdır. Sorunu tespit eden taramalar önemli olmakla beraber sorunu çözüme kavuşturan davranış değişikliklerini alışkanlığa dönüştüren rol modellerle diş fırçalama seansları daha bir önem arz eder. Ailelere sırasıyla diş fırçalama, kitap okuma ve sonrasında uyku üçgeni öğretilmelidir.

Anahtar kelimeler: Ağız sağlığı, çocuk, diş çürükleri, diş fırçalama

Introduction

Oral and dental health are critical components of overall health and can have a significant impact on quality of life and health outcomes. Therefore, it is important to consider oral and dental health as an integral part of the overall health evaluation. Maintaining and preserving oral and dental health, as the gateway to our digestive system, can ensure protection of overall body health. Many common oral health issues, including dental caries, malocclusion, and fluorosis, often first appear during childhood. Effective prevention of these problems can be achieved through regular preventive dental care and counselling (1,2).

Providing preventive dental care and counselling during regularly scheduled routine screenings is very important for achieving dental health goals. Since paediatricians and family physicians are the first physicians to encounter children, being competent in good counselling will be an important component of preventive health services. Patients should be referred to dentists when necessary. The purpose of this review is to examine the risk factors for oral and dental health in children from the perspective of the pediatrician's consultancy and strategic role. We will emphasise the precautions and protective factors that should be taken to ensure an optimal oral health outcome.

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Epidemiology

Although dental caries prevalence has decreased since the 1970s, it remains a pervasive chronic disease among children of all ages. In 2017, untreated caries' global age-standardized prevalence was about 8% in primary teeth and 29% in permanent (3). In a meta-analysis conducted by Kazeminia et al. (4), 164 articles from various countries were analyzed to determine the prevalence rates of dental caries in deciduous and permanent teeth. The findings revealed the rates to be 46.2% and 53.8% respectively (4). Similarly, Şengül et al. (5) determined the prevalence of early childhood caries to be 73.3% in a study involving 1156 preschool children. This study highlights the severity of the situation in our country (5). Unfortunately, dental caries in children are rising in developing countries where preventive health services and educational programs are not implemented (6).

Risk Factors

Risk factors associated with poor oral and dental health comprise of low income, cultural disparities in nutrition, infrequent dental appointments, lower parental education levels, insufficient, oral and dental health knowledge among parents and their children, ineffective oral hygiene practices, and a high-calorie diet (1,2,7). In addition, parents and children may lack knowledge of effective preventive measures, misunderstand the relationship between diet and oral health, and prefer to eat a high calorie diet. The correlation between access to dental practitioners and dental health is not considered to be significant. Therefore, more attention should be given to knowledge and attitude in addressing the issue of dental caries. It is crucial to implement interventions aimed at changing lifestyle practices and conduct, through education and awareness programs. Systematic data related to oral health behavior must be utilized for the planning and assessment of oral health education (8). Children should be referred to a dentist for early assessment, preventive care and counselling if the risk factors listed in Table 1 are present (9,10).

Strategies to Protect Dental Health

Specific education or counselling interventions can globally reduce dental caries. If education, the provision of toothbrushes and toothpaste, and additional training of primary health care providers are combined, the incidence of dental caries may decrease in high-risk children under five years old (11-14). Pediatricians need to analyze the etiology of dental caries and the risk factors that cause and promote dental caries to guide future, preventive and protective interventions. Since the causative factors of dental caries in patients are multifactorial, the suggested guidance also ought to be multifactorial and wide-ranging. In order to ensure optimal health and development, it is important to consider the following recommendations for parents (15-18).

Table 1. Risk factors for early referral to the dentist

A caregiver or mother who has tooth decay is present
low socio-economic standing
Breast-feed or bottle-fed for children over 12 months
Frequent sugary drinks and snacking
Extended use of a training cup throughout the day
Use of a bottle before going to bed, especially with drinks containing sugar
More than three weeks' use of liquid medicines
Passive smoking exposure
Children with special medical needs
Inadequate fluoride exposure
Visible plaque on the upper front teeth
Pits or defects in the enamel

Dietary guidance

1- The baby should be exclusively breast-fed for the first 6 months and then can be fed for up to 1 year or more depending on mother-baby co-operation (up to 2 years).

2- Avoid letting the child fall asleep with a bottle to prevent dental decay.

3- Develop a daily routine for dental health like triangle B (brush, book, bed).

4- After the age of one, it is recommended that the bottle is discontinued.

5- The consumption of sugary foods and drinks should be restricted to mealtimes.

6- Carbonated, sugary drinks and fruit juice drinks that are not 100% fruit juice should be avoided.

7- Fluorine-containing water is sufficient during meals (about 2 tea cups), drinks with 100% fruit juice can also be taken 30 mL 4-6 times a day (about 30 mL 4-6 times a day).

8- Traditional home cooking is preferable to processed foods.

A) Maintaining Oral Hygiene

1- Parents/carers should be encouraged to model and maintain good oral hygiene and a relationship with their dental provider.

2- Parents or carers with significant tooth decay should avoid mouth contact with children's belongings.

3- The child's teeth should be brushed twice a day as soon as they erupt. A grain of fluoride the size of a grain of rice is sufficient. From the age of three, it can be the size of a pea. Until the age of eight, the family should help with tooth brushing.

B) Fluoride Use and Other Precautions

1- Fluoride toothpaste decrease the likelihood of tooth decay.

2- If there is adequate fluorine present in the drinking source or drinking water, additional fluorine supplementation is unnecessary.

3- Fluoride varnish is a sticky resin with a high fluoride concentration. It is applied professionally, and two or more applications per year can prevent tooth decay in high-risk children of all ages. In certain countries, paediatricians administer this treatment.

4- In the first few months of life, the pacifier should only be used during sleep, as it provides a protective effect against sudden infant death syndrome.

5- Finger sucking and the use of pacifiers should be stopped before the age of three to prevent the development of oral and dental structural problems.

6- Dental injuries in school-age children and toddlers can affect almost a quarter of children. It's particularly important to cover sharp objects and not to take children in cars without a proper car seat. Pediatricians should encourage the use of mouth guards during children's sports activities.

7- In the first year, all children should be examined by a dentist.

In order for these preventive strategies to be effective, it is necessary to establish collaborative relationships between physicians and dentists at the community level and to protect oral and general health by increasing access to dental care for all children. There is a one-to-one connection between oral hygiene and diseases. Therefore, the department of paediatrics should have the necessary competencies in oral hygiene and should work in coordination with dentistry. Dental health should be given due importance in education programs and speciality training. Dental rotations of paediatric residents and family physicians should be extended throughout the country. Preventing tooth loss before caries is both more cost-effective and more rational.

The protection of oral and general health of children and the entire population cannot be achieved solely through the efforts of physicians and families. It is also necessary to establish the necessary legal regulations to deal with sugary, carbonated drinks and fast foods that are easily sold everywhere with the intense effect of advertisements with technological developments. Unfortunately, school canteens are not under the supervision of physicians. Local administrations should establish the necessary legislation in this regard. On the other hand, low-income families who do not have access to adequate nutrition eat a carbohydrate-based diet. These families and children should receive more social assistance in favour of children.

In addition to all these, therapies focused on changing behavior (cognitive therapies) can be applied to families with poor oral hygiene and poor tooth brushing habits despite having all kinds of opportunities. Although there are not enough studies, we think that collective tooth brushing sessions with role models in places such as schools, prisons and military barracks may be useful in terms of changing behaviors into habits. The crucial role of paediatricians in protecting and promoting oral and dental health, both globally and in our own country, cannot be understated. While Hippocrates famously said, "All diseases start in the gut", we propose an addition: "All diseases begin in the mouth…" By recognising this, we can cultivate psychologically, physically, and socially healthy future generations.

Highlight Key Points

- Unfortunately, oral and dental health is far from the desired level in our country.
- Pediatricians can have a strategic role in maintaining oral and dental health.

It is important that pediatricians work in coordination with dentists.

- Dental and oral health should be given more place in pediatric specialty training.
- Tooth brushing, reading, and a sleep routine (triangle BBB: Brush, book, bed) should be taught from childhood.

Ethics

Peer-review: Internally and externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: H.D., Z.M.T.A., Concept: Z.M.T.A., Design: H.D., Z.M.T.A., Data Collection or Processing: Z.M.T.A., Analysis or Interpretation: H.D., Literature Search: H.D., Z.M.T.A., Writing: H.D.

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