

Children's Oral Health Assessment, Prevention, and Treatment



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KEYWORDS

• Dental caries • Risk assessment • Prevention • Treatment • Pediatricians

KEY POINTS

- Oral health is part of general health and it contributes to oral health–related quality of life in children.
- The involvement of pediatricians in advocating for dental care has facilitated the awareness and prevention of dental caries in children.
- The establishment of a dental home provides a lifetime opportunity for risk assessment, treatment, oral health promotion, and prevention of caries.

INTRODUCTION

This article provides a brief introduction to the oral health of children and the barriers to dental care as well as some discussion on prevention and treatment modalities for dental caries. Also covered is the epidemiology of dental caries, caries risk assessment, and the involvement of pediatricians in advocating for and providing preventive dental care for children. Dental caries, one of the most common dental diseases, is also referred to as tooth decay or cavities by the public.¹ Dental caries is a recognized public health concern that results from the repeated interaction of oral bacteria, primarily mutans streptococci, with fermentable sugars leading to acid production that results in microscopic dissolution of minerals in dental hard tissues and the formation of opaque white (white spot lesions) or brown spots on teeth.

Early childhood caries (ECC) is the presence of 1 or more decayed (noncavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth

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in a child before the age of 6 years.² ECC is considered severe if the smooth surfaces of the teeth are affected in children less than 3 years old.² Early and preventive dental care is cost-effective in reducing dental disease burden,^{3,4} as well as in establishing a dental home as a foundation on which a lifetime of preventive education and oral health care can be built.^{5,6} Routine or preventive dental visits are important for early diagnosis, prevention, and treatment of dental caries and for establishing and maintaining good oral health and overall well-being^{1,3,4}

BARRIERS TO CHILDREN'S ORAL HEALTH

Oral health means more than taking care of the teeth; it refers to the health of the oral cavity and its supporting structures.¹ Oral health is integral to general health and it contributes to overall health and well-being.¹ Despite documented improvement in the oral health of most Americans, access to dental care continues to be a problem in the United States. Inadequate access to dental care cuts across age, gender, and socioeconomic and geographic boundaries. Children from racial and ethnic minorities and low-income families, the uninsured, poor inner-city children, and those with special needs are disproportionately affected by dental diseases and have the most inadequate access to dental care. This problem to persists even with the many years of research into the cause and prevention of common dental diseases. Oral health care remains one of the most challenging and prevalent unmet health needs among infants, toddlers, adolescents, and young adults in the United States¹ and developing countries.

Barriers to children's oral health exist, especially for Medicaid enrollees. These barriers include workforce maldistribution and/or inadequate numbers of dentists,⁷ low Medicaid reimbursement rates, and high administrative burden.⁸ In addition, there is a severe shortage of minority dentists to serve the growing racial/ethnic minority Medicaid enrollees. As Okunseri and colleagues⁹ have reported, minority dentists are more likely to accept new Medicaid patients. Furthermore, studies have documented that children from low-income families have lower odds of receiving comprehensive dental care and higher odds of having acute dental disease than children from middle-income and upper-income families.^{10,11} To remedy these problems, professional organizations and government agencies continue to work towards expanding the workforce and developing various alternatives, such as school-based sealant and fluoride varnish application programs. These programs are usually managed by dental professionals, including dental hygienists and assistants. In addition, pediatricians and family physicians conduct oral health risk assessment and provide preventive care that includes anticipatory guidance in their offices.

EPIDEMIOLOGY OF DENTAL CARIES

Most children are susceptible to dental caries throughout their lives. However, with the knowledge of epidemiology, dental care providers and researchers have a better understanding of the distribution and determinants of dental caries in different population groups. They also have the opportunity to engage in anticipatory guidance and risk assessment, and to use different modalities of caries prevention. Although different classifications and indices of caries have been used in epidemiologic studies, the facts related to who is affected and by how much in different populations still remains easy to comprehend. Understanding dental caries epidemiology is crucial to providing appropriate clinical care and to identifying relevant public health measures to control the disease. However, because of some of the limitations associated with epidemiologic studies, clinicians are encouraged to engage in caries risk assessment.

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