

Breastfeeding

An overview of oral and general health benefits

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During the last several years, investigators have paid considerable attention to the relationship between oral and general health.¹⁻³ Dentists are engaging in new roles as advocates for health promotion and disease prevention beyond the oral cavity. Examples of dentists' willingness to venture outside the realm of traditional oral health issues include the profession's role in embracing counseling regarding cessation of tobacco use,^{4,5} monitoring blood pressure⁶ and participating in the fight against childhood obesity.⁷⁻¹¹ Substantial evidence exists supporting the many health benefits associated with breastfeeding¹²⁻¹⁴; however, the extent of dental professionals' knowledge is uncertain.

The American Academy of Pediatrics¹³ (AAP), Elk Grove Village, Ill., and the World Health Organization,¹⁵ Geneva, state that exclusive breastfeeding, defined as giving an infant only breast milk—no water, no formula and no other liquids or solid foods—is the norm against which all alternative feeding methods should be compared. The 2012 AAP policy statement on breastfeeding and the use of human milk docu-

ABSTRACT

Background. Breastfeeding is the reference against which alternative infant feeding models must be measured with regard to growth, development and other health outcomes. Although not a systematic review, this report provides an update for dental professionals, including an overview of general and oral health-related benefits associated with breastfeeding.

Types of Studies Reviewed. The authors examined the literature regarding general health protections that breastfeeding confers to infants and mothers and explored associations between breastfeeding, occlusion in the primary dentition and early childhood caries. To accomplish these goals, they reviewed systematic reviews when available and supplemented them with comparative studies and with statements and reports from major non-governmental and governmental organizations.

Results. When compared with health outcomes among formula-fed children, the health advantages associated with breastfeeding include a lower risk of acute otitis media, gastroenteritis and diarrhea, severe lower respiratory infections, asthma, sudden infant death syndrome, obesity and other childhood diseases and conditions. Evidence also suggests that breastfed children may develop a more favorable occlusion in the primary dentition. The results of a systematic review in which researchers examined the relationship between breastfeeding and early childhood caries were inconclusive.

Conclusions and Clinical Implications. The American Academy of Pediatric Dentistry, Chicago, suggests that parents gently clean infants' gums and teeth after breastfeeding. The American Academy of Pediatrics, Elk Grove Village, Ill., recommends that breastfeeding should be exclusive for about the first six months of life and should continue, with the introduction of appropriate complementary foods, to at least age 12 months or beyond, as desired by mother and child. Dentists and staff members can take steps to ensure they are familiar with the evidence and guidelines pertaining to breastfeeding and to oral health. They are encouraged to follow the surgeon general's recommendations to promote and support optimal breastfeeding and oral health practices among their patients.

Key Words. Asthma; breastfeeding; primary dentition; occlusion; early childhood caries; gastroenteritis; nonnutritive sucking; obesity; oral habits; otitis media.

JADA 2013;144(2):143-151.



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ments the many important reductions in health risks for infants and children, mothers, families and society that are attributable to breastfeeding and the use of human milk for feeding.¹³ These advantages include developmental,¹⁴ economic,^{16,17} health, nutritional, immunological, psychological, social and environmental benefits.¹³ In addition, investigators at an evidence-based research center supported by the Agency for Healthcare Research and Quality, Rockville, Md., conducted a systematic review of the associations between breastfeeding and maternal and child health outcomes, focusing on findings in developed countries.¹² They, too, concluded that substantial reduced health risks can be realized through breastfeeding.¹²

The purpose of this report is to provide an educational update for dentists and dental staff members about the general health advantages and oral health outcomes associated with breastfeeding. In addition, we examine current breastfeeding and oral health recommendations from major pediatric and dental organizations.

METHODS

This is not a systematic review; rather, to provide an update on the maternal and child health benefits associated with breastfeeding, we used results of meta-analyses and systematic reviews when available, and we supplemented these with comparative studies, as well as statements and reports from major nongovernmental and governmental organizations (including “The Surgeon General’s Call to Action to Support Breastfeeding”¹⁸). In examining the relationships between breastfeeding and early childhood caries (ECC), we used the definition provided by the American Academy of Pediatric Dentistry (AAPD), Chicago: “the presence of 1 or more decayed (noncavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth in a child under the age of 6 [years].”¹⁹ For our overview of the association between breastfeeding and ECC, as well as for associations between breastfeeding, craniofacial development and dental occlusion, we searched MEDLINE, PubMed and Google Scholar for relevant English-language reviews and comparative studies published from January 1999 through March 2011 by using breastfeeding, craniofacial development, dental occlusion and early childhood caries as key words.

WHY BREASTFEEDING AND BREAST MILK ARE IMPORTANT

The unique properties of breast milk make it the best source of nutrients for infants.¹³ The

policy statement of the AAP Section on Breastfeeding specifies that breast milk is the only source of nutrition a healthy infant requires for about the first six months of life.¹³ Breast milk is tailored to the infant’s specific nutritional needs, contains immunological agents such as secretory immunoglobulin (Ig) A and IgG and has anti-inflammatory properties that offer protection to the potentially immature immune systems of both term and preterm infants.²⁰ Breast milk contains bioactive components that are resistant to digestive processes and that enhance the infant’s immune system, thereby contributing to short- and long-term health protection. Breastfeeding also confers health advantages to mothers.

Reduced health risks for breastfed children. Protection against short-term infections. Acute otitis media. Acute otitis media (AOM), commonly referred to as middle ear infection, is a common infection experienced during childhood. Among U.S. children aged 0 through 4 years, the rate of ambulatory care visits with AOM as the primary diagnosis was 575 per 1,000 visits in 2007.²¹ AOM also is one of the leading causes of hearing loss in children,²² and typically it begins as an upper respiratory-tract infection (RTI) that leads to eustachian tube dysfunction and an ear infection.¹² The bactericidal properties of human milk may help protect against AOM.^{20,23} Investigators conducting a meta-analysis of studies that included children in developed countries found that those who were formula-fed exclusively had twice the risk of developing AOM compared with those who were breastfed exclusively for three or six months.¹²

Gastroenteritis and diarrhea. Gastroenteritis and diarrhea are common among children and can cause dehydration. Globally, researchers have estimated that 1.34 million deaths among children aged 0 through 59 months are attributable to diarrheal disease, making it the second most common cause of mortality among children in this age group.^{24,25} Human milk protects against diarrhea by coating the intestinal lining and killing pathogens that can cause infections.²⁶ In a review of 18 studies, Lamberti and

ABBREVIATION KEY: **AAP:** American Academy of Pediatrics. **AAPD:** American Academy of Pediatric Dentistry. **ADA:** American Dental Association. **AOM:** Acute otitis media. **ECC:** Early childhood caries. **Ig:** Immunoglobulin. **NEC:** Necrotizing enterocolitis. **RTI:** Respiratory-tract infection. **SIDS:** Sudden infant death syndrome. **T2DM:** Type 2 diabetes mellitus.

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