



ENSURING ORAL HEALTH THROUGH A TRANSDISCIPLINARY APPROACH

Emanuel Finn, DDS and Scott Wolpin, DMD

Overview

The major message of “*Oral Health in America: A Report of the Surgeon General*” is that oral health is essential to the general health and well-being of all Americans *and* can be achieved by all Americans. However, not all Americans are achieving the same degree of oral health. In this paper, we will look at one of the most vulnerable populations: children, especially poor and underserved children. The goal of Healthy People 2010 is to reduce the proportion of young children with dental caries in their primary teeth from 18 percent to 11 percent of children ages 2-4.

What Clinicians Can Do:

- Recognize that good oral health is integral to one’s overall well-being.
- Become involved in ACU’s Oral Health Project and advocate for comprehensive dental insurance, especially for low-income children and those who are un- or under-insured. Encourage the establishment of school-based oral health centers to provide care to the underserved.
- Convince policy makers of the benefits of community water fluoridation, especially for high-risk populations.
- Support the expansion of oral health programs in local health departments and community-based health centers that serve economically disadvantaged rural, migrant, urban, and homeless families. Establish the concept of the “dental home,” a continuous, accessible source of care.¹
- Realize that the “silent epidemic” of oral disease causes needless pain and suffering, complications that devastate overall health and well-being, and financial and social costs that diminish the quality of life and burden American society.²
- Send ACU stories or best-practice models for the 0-3 population who are receiving continuous preventive oral health care services from a transdisciplinary team.

¹ K. Holt and S. Cole. 2003. “Oral Health Tip Sheet for Head Start Staff: Working with Parents to Improve Access to Oral Health Care.” Washington, D.C.: National Maternal and Child Oral Health Resource Center.

² Children’s Dental Health Project. “Preserving the Financial Safety Net by Protecting Medicaid & SCHIP Dental Benefits.” Washington, D.C. September 2003.

Background

The Problems

Early Childhood Caries (ECC), also called baby bottle tooth decay or nursing caries, is the single most common chronic childhood disease, occurring five times more frequently than asthma. It is seven times more common than hay fever. ECC is an infectious, transmissible, and diet-dependent disease. Infant feeding practices in which children are put to bed with formula or other sweetened drinks or sweetened pacifiers or who are allowed to breastfeed continuously through the night, especially if a child falls asleep while feeding, have been associated with ECC.

Despite the reduction in cases of caries in recent years, more than half of all children have caries by the second grade, and, by the time students finish high school, about 80 percent have caries. Unless diagnosed and treated early, caries are irreversible.

Dental caries remain a significant problem in some populations, particularly certain ethnic and racial groups and poor children. National data indicate that 80 percent of dental caries in the permanent teeth found in children is concentrated in 25 percent of the child and adolescent population.³

The lack of dental insurance is associated with oral health problems.

Access to oral health care services for the 0-3 year old population and dental referrals are areas of concern. There is both an overall shortage of dentists as well as an unequal distribution of specialists. Non-dental providers can play a significant role in detection and treatment of ECC if they are professionally trained. Within the dental profession itself, there is limited training on care of the 0-3 year old population, although professional organizations such as the American Academy of Pediatrics (AAP) encourage screening by 1 year of age.

Recommendations

Access to Care and Insurance

Given that ECC is a preventable disease, children as young as 6 months to 1 year who are at risk for dental caries should be seen by a dental professional and should establish a “dental home.” In lieu of that, children should be seen by a primary care professional trained to screen children for ECC; referrals should be made to a dental professional if needed.

Clinicians need to train non-dental providers and utilize dental expertise for treatment. In addition, simply making services available is not enough. The services of transportation,

³ The Children’s Dental Health Project for the American Academy of Pediatric Dentistry’s Filling Gaps Project. *The Interface Between Medicine and Dentistry in Meeting the Oral Health Needs of Young Children*. Washington, D.C.:Children’s Dental Health Project. p. 3.

interpreters, and child care for siblings must be dealt with as well. State and national policy makers need to be educated on these topics.

Only 44 percent of persons in the United States have some form of private dental insurance (most with limited coverage and high co-payments), 9 percent have public dental insurance (Medicaid and State Children's Health Insurance Program [SCHIP]), 2 percent have other dental insurance, and 45 percent have no dental insurance.

Under budgetary pressure, all but 14 states have eliminated comprehensive dental coverage for adults. If children's dental services become optional, states may seek to reduce or eliminate dental coverage for children as well. Since spending on children's dental care in Medicaid is less than 1% of State Medicaid budgets, little money would be saved and children would suffer needlessly.⁴

Fluoridation

Community water fluoridation grew rapidly from its inception in 1945 until about 1980; since then, the proportion of the U.S. population living in communities with fluoridated water supplies has remained at 60 to 62 percent. About 100 million persons still lack the benefits of community water fluoridation.

Water fluoridation reduces or eliminates disparities in preventing dental caries among different socioeconomic, racial, and ethnic groups. It is an ideal public health method because it is effective, eminently safe, inexpensive, and does not depend on access to or availability of professional services.

For those who lack fluoridated water, or for groups that require extra fluoridation, fluoride toothpaste, fluoride rinses, and topical fluoride applications may be used. Using the American Academy of Pediatric Dentistry's risk assessment guidelines, the transdisciplinary teams can use these topical fluorides and minimize the risk of fluorosis.

Oral Health and Pregnancy

Poor oral hygiene in pregnancy can lead to preterm labor and low birth weight babies. Pregnant women should be assessed for dental disease as part of routine prenatal care and given access to dental care during prenatal period. Since Early Childhood Caries (ECC) is an infectious disease, controlling the disease in pregnancy greatly reduces the chance of transmitting it to the infant.^{5,6}

The bacterium that is most specifically associated with dental caries, *Streptococcus Mutans*, can be transmitted between mother and child. It has been suggested that the age of the colonization with the bacterium is a risk factor for caries in the child.⁷

⁴ Children's Dental Health Project. "Understanding Dental Medicaid: Mandatory & Optional Populations & Benefits." Washington, D.C.

⁵ U.S. Department of Health and Human Services (HHS). *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: HHS, National Institutes of Health, National Institute of Dental and Craniofacial Research, 2000.

⁶ NCHS. *Healthy People 2010—21—Oral Health*. Hyattsville, MD: Public Health Service, 2000.

⁷ K. Holt and S. Cole, *op cit*.

Sealants

The percentage of school-aged children with dental sealants to protect the chewing surfaces of molars has risen in recent years as the public and private sectors increasingly use the procedure, dental insurance pays for dental sealants, and parents request sealants for their children. No increase, however, has occurred among children in low-income populations.

Opportunities must be expanded to target these and other preventive procedures to poor, largely inner city and rural children in school-based or school-linked programs.

Workforce Development

Non-dental providers need to be trained to screen for ECC and to apply sealants and fluoride varnishes. The dental, primary care, and public health communities need to work together to provide comprehensive, culturally sensitive care; a transdisciplinary approach works best. State practice acts can address the need for collaborative delivery of preventive oral health care services for vulnerable children especially aged 0-3. Primary care training programs can include competencies in preventive oral health care and dental referral practices.

Brushing and Flossing and Sound Dietary Practices

The rudimentary elements of good dental care continue to be a regular regimen of brushing and flossing. Parents are advised to clean their babies' teeth with a soft washcloth after each feeding and not to put their baby to bed with a bottle.

In addition, parents and caregivers should be instructed not to share utensils with their child, or to clean a pacifier with their mouths, as these practices can spread harmful bacteria, mutans streptococci, from adult to child.

Eating a healthy, balanced diet, low in refined sugar, is as important to good oral health as it is to general good health. Young children should be offered nutritious meals and snacks, and carbonated and sugar-laden drinks should be avoided. Anticipatory guidance should be an age-specific part of a comprehensive well-child visit.

Conclusion

Early childhood caries is a silent epidemic among low-income and ethnic children. If all clinicians realize how important oral health is to overall health, and are trained to recognize the signs of early childhood caries, then steps can be taken to identify and treat this disease. This effort must be a transdisciplinary one, including both medical and dental professionals.