Oral Health and Learning

When Children's Oral Health Suffers, So Does Their Ability to Learn

"What amounts to a silent epidemic of dental and oral diseases is affecting some population groups. This burden of disease restricts activities in schools, work, and home, and often significantly diminishes the quality of life."

Surgeon General David Satcher, Ph.D., M.D.¹



n estimated 51 million school hours per year are lost because of dental-related illness.²

Students ages 5 to 17 years missed 1,611,000 school days in 1996 due to acute dental problems—an average of 3.1 days per 100 students.3

Children from families with low incomes had nearly 12 times as many restricted-activity days (e.g., days of missed school) because of dental problems as did children from families with higher incomes.4

Over one third of Navajo children living on the Navajo reservation in New Mexico and Arizona missed school because of dental-related pain or discomfort.⁵

Oral Health and Learning

Early tooth loss caused by dental decay can result in failure to thrive, impaired speech development, absence from and inability to concentrate in school, and reduced self-esteem.⁶

Students with preventable or untreated health and development problems may have trouble concentrating and learning, have frequent absences from school, or develop permanent disabilities that affect their ability to learn and grow.⁷

Children who take a test while they have a toothache are unlikely to score as well as children who are undistracted by pain.8

Poor oral health has been related to decreased school performance, poor social relationships, and less success later in life. Children experiencing pain are distracted and unable to concentrate on schoolwork.9

Children are often unable to verbalize their dental pain. Teachers may notice a child who is having difficulty attending to tasks or who is demonstrating the effects of pain—anxiety, fatigue, irritability, depression, and withdrawal from normal activities. However, teachers cannot understand these behaviors if they are not aware that a child has a dental problem.¹⁰

Children with chronic dental pain

are unable to focus, are easily dis-



tracted, and may have problems with schoolwork completion. They may also experience deterioration of school performance, which negatively impacts their self-esteem.¹¹



Left untreated, the pain and infection caused by tooth decay can lead to problems in eating, speaking, and learning.9

If a child is suffering pain from a dental problem, it may affect the child's school attendance, and mental and social well-being while at school.¹²

School nurses report a range of oral health problems such as dental caries, gingival disease, malocclusion (poor bite), loose teeth, and oral trauma in children.¹²

When children's acute dental problems are treated and they are not experiencing pain, their learning and school-attendance records improve. 13

Nutrition and Learning

People who are missing teeth have to limit their food choices because of chewing problems, which may result in nutritionally inadequate diets.¹⁴

The daily nourishment that children receive affects their readiness for school.¹⁵

Inadequate nutrition during childhood can have detrimental effects on children's cognitive development and on productivity in adulthood. Nutritional deficiencies also negatively affect children's school performance, their ability to concentrate and perform complex tasks, and their behavior.¹⁶

Programs for Improving Oral Health

Oral health care is a critical component of health care and must be included in the design of community programs.¹⁷

Head Start and Early Head Start are examples of programs that provide medical, dental, and nutritional screening, assessment, and referral, and seek to provide every child with the learning experiences necessary to succeed in school.

School-based oral health services can help make preventive services such as fluoride and dental sealants accessible to children from families with low incomes. Services should include screening, referral, and case management to ensure the timely receipt of dental care from community practitioners.⁶

The federal government, through Title V of the Social Security Act, provided the genesis for most state dental public health programs in the country. It is estimated that 90 percent of states' dental programs are funded through Maternal and Child Health Services Block Grants to states.¹⁸

References

- 2001. Poor Oral Health Is No Laughing Matter. Washington, DC: Community Voices: HealthCare for the Underserved.
- 2. Gift HC. 1997. Oral health outcomes research: Challenges and opportunities. In Slade GD, ed., Measuring Oral Health and Quality of Life (pp. 25–46). Chapel Hill, NC: Department of Dental Ecology, University of North Carolina.
- 3. National Center for Health Statistics. 1996. Current estimates from the National Health Interview Survey, 1996 (Vital and Health Statistics: Series 10, Data from the National Health Survey; no. 200). Hyattsville, MD: U.S. Department of Health and Human Services, National Center for Health
- 4. Adams PF, Marano MA. 1995. Current estimates from the National Health Interview Survey, 1994 (Vital and Health Statistics: Series 10, Data from the National Health Survey; no. 193). Hyattsville, MD: U.S. Department of Health and Human Services, National Center for Health Statistics.
- 5. Chen M, Andersen RM, Barmes DE, Leclercq MH, Lyttle CS. 1997. Comparing Oral Health Care Systems: A Second International Collaborative Study. Geneva, Switzerland: World Health Organization.

- 1. Community Voices: HealthCare for the Underserved. 6. Office of Disease Prevention and Health Promotion. 13. Reisine ST. 1985. Dental health and public policy: 2000. Healthy People 2010. In Office of Disease Prevention and Health Promotion [Web site]. Cited January 15, 2001; available at www.healthypeople. gov/Document/HTML/Volume2/21Oral.htm.
 - 7. McCart L, Stief E. 1996. Creating Collaborative Frameworks for School Readiness. Washington, DC: National Governors' Association.
 - 8. Rothstein, R. March 7, 2001. Lessons: Seeing Achievement Gains By An Attack on Poverty. New York, NY: New York Times.
 - 9. U.S. General Accounting Office. 2000. Oral Health: Dental Disease is a Chronic Problem Among Low-Income and Vulnerable Populations. Washington, DC: U.S. General Accounting Office.
 - 10. Ramage S. 2000. The impact of dental disease on school performance: The view of the school nurse. Journal of the Southeastern Society of Pediatric Dentistry 6(2):26.
 - 11. Schechter N. 2000. The impact of acute and chronic dental pain on child development. Journal of the Southeastern Society of Pediatric Dentistry 6(2):16.
 - 12. Peterson J, Niessen L, Nana Lopez GM. 1999. Texas public school nurses' assessment of children's oral health status. Journal of School Health 69(2):69-72.

- The social impact of dental disease. American Journal of Public Health 75(1):27-30.
- 14. National Center for Chronic Disease Prevention and Health Promotion. 2000. Oral health and quality of life. In National Center for Chronic Disease Prevention and Health Promotion [Web site]; available at www.cdc.gov/OralHealth/factsheets/sgr 2000-fs5.htm.
- 15. Boyer EL. 1992. Ready to Learn: A Mandate for the Nation. Lawrenceville, NJ: Princeton University
- 16. Center on Hunger, Poverty, and Nutrition Policy. 1994. Statement on the Link Between Nutrition and Cognitive Development in Children. Medford, MA: Tufts University, Center on Hunger, Poverty, and Nutrition Policy.
- 17. National Institutes of Dental and Craniofacial Research. 2000. The Surgeon General's Report on Oral Health. In National Institute of Dental and Craniofacial Research [Web site]. Cited January 15, 2001; available at www.nidcr.nih.gov/sgr/oralhealth.
- 18. Personal communication with Mark Nehring, Maternal and Child Health Bureau, Health Resources and Services Administration, 7/12/01.

This fact sheet was produced by Katrina Holt and Karen Kraft of the National Maternal and Child Oral Health Resource Center under its grant (1H47MC00048) from the Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health

Oral Health and Learning: When Children's Health Suffers, So Does Their Ability to Learn (2nd ed.) © 2003 by National Maternal and Child Oral Health Resource Center, Georgetown University.

Permission is given to photocopy this fact sheet. Requests for permission to use all or part of the information contained in this publication in other ways should be sent to the National Maternal and Child Oral Health Resource Center.

National Maternal and Child Oral Health Resource Center Georgetown University Box 571272 Washington, DC 20057-1272 (202) 784-9771 • (202) 784-9777 fax E-mail: info@mchoralhealth.org Web site: www.mchoralhealth.org