

Research strengthens link between obesity and dental health in homeless children

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Obesity and dental cavities increase and become epidemic as children living below the poverty level age, according to nurse researchers from the Case Western Reserve University and the University of Akron.

"It's the leading cause of chronic infections in children," said Marguerite DiMarco, associate professor at the Frances Payne Bolton School of Nursing at Case Western Reserve University.

Researchers Sheau-Huey Chiu, assistant professor, and graduate assistant Jessica L. Prokp, from the University of Akron's College of Nursing, contributed to the study.

Researchers found that as [body mass index](#) (BMI) increased with age, so do the number of cavities. These findings were published in the online *Journal of Pediatric Health Care* article, "[Childhood obesity](#) and dental caries in homeless children."

The study examined the physicals of 157 children, from 2 to 17 years old, at an urban homeless shelter. Most were from single-parent families headed by women with one or two children.

Obesity was calculated based on height and weight or BMI. Cavity counts included missing, filled or injured teeth. The data was originally collected for DiMarco's doctoral dissertation at Case Western Reserve nursing school.

While studies in Brazil, New Zealand, Sweden and Mexico have shown a relationship between obesity, dental health and poverty, few U.S. studies have examined how the three factors are linked.

A pediatric nurse practitioner, DiMarco said dental caries ([tooth decay](#)) and obesity outpaced such health issues as asthma among the children studied.

The findings support reports from the Centers for Disease Control and Prevention that obesity and poor oral health have doubled since 1980, raising the risk of diabetes and other health problems, as well as issues with self-esteem.

Poverty contributes to poor dental health by limiting access to nutritious food, refrigerators to preserve food and even running water in some homes, said DiMarco, who has seen dental caries as the predominant infectious disease in rural and urban children.

"Many people do not realize ," she said, "that [dental caries](#) is an infectious disease that can be transmitted from the primary caregiver and siblings to other children."

To help reduce the spread of dental infection, DiMarco reminds parents that gum disease and other oral infections can be spread by licking a child's spoon or baby bottle, or by sharing toothbrushes.

Another problem for children of poverty is access to dental care, where families lack the financial means and transportation to make and keep an appointment. And some working poor may not qualify for Ohio's Childhood Health Insurance Program, which subsidizes health and dental care reimbursements to providers.

"There are no easy solutions," DiMarco said, "especially with the

homeless population."

Pediatric nurse practitioners are in a pivotal position to provide health information from birth through the teen years to prevent such health issues, DiMarco said.

Provided by Case Western Reserve University

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