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Child/Adolescent Health

When primary care providers apply fluoride varnish, young Medicaid-insured children have fewer cavities

Tooth decay among children younger than 5 years, referred to as early childhood caries (ECC), is preventable. Yet as many as 11 percent of 2-year-olds and 44 percent of 5-year-olds develop ECC, with children from low-income families bearing a disproportionate burden of the disease. According to a new study, application of topical fluoride varnish by non-dental pediatric primary care providers can reduce dental caries-related treatments among children. A North Carolina Medicaid program called "Into the Mouths of Babes" (IMB), initiated in 2000, had primary care providers apply fluoride varnish to children's teeth during office visits. Analysis of the State's Medicaid enrollment and claims data from 2000 to 2006 showed that the program reduced dental caries-related treatments among children with 4 or more IMB visits by 17 percent up to 6 years of age compared with children with no IMB visits.

When Bhavna T. Pahel, Ph.D., and her University of North Carolina colleagues simulated data for initial IMB visits at 12 and 15 months of age, there was a cumulative 49 percent reduction in dental caries-related treatments at 17 months of age. However, there was an increase in treatments for children from 24 to 42 months of age. The authors hypothesize that this increase in dental caries-related treatments likely occurred due to greater detection of disease in teeth of children who received and benefitted from the program, longer time since fluoride application, and emergence of teeth not initially treated with fluoride. Therefore, the authors concluded that multiple applications of fluoride at the time of primary tooth emergence seem to be most beneficial. In total, the reduction in caries-related treatments from the IMB preventive dental services represents a substantial improvement in the oral health of Medicaid-enrolled children, who historically have had high rates of dental caries but poor access to care from dentists, comment the researchers.

The IMB Program was based on the perception that, although very young children are unlikely to get checkups at the dentist, they frequently make well-child visits to their pediatricians or other primary care providers. The study was supported in part by the Agency for Healthcare Research and Quality (T32 HS00032).

See "Effectiveness of preventive dental treatments by physicians for young Medicaid enrollees," by Dr. Pahel, R. Gary Rozier, D.D.S., Sally C. Stearns, Ph.D., and Rocio B. Qunonez, D.M.D., in *Pediatrics* 127, pp. e682-3689, 2011.

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