

# The Cavity Prevention Tool We're Overlooking: Xylitol

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*Project Focus: Implementing an interactive oral health education program for children and caregivers*

*Project Site: El Valor Guadalupe Reyes Children & Family Center*

Tooth decay is one of the most common chronic diseases of childhood, yet it is almost entirely preventable. Despite advances in dental care, millions of children continue to experience cavities that affect their ability to eat, sleep, concentrate in school and thrive. While we often focus on treatment, we talk far less about simple, evidence-based prevention strategies that can make a meaningful difference. One of those strategies is to introduce xylitol into children's diet.

Xylitol is a sugar alcohol that occurs naturally in small amounts in certain fruits and vegetables and is widely used in dental prevention. Unlike sugar, it does not feed cavity-causing bacteria. Instead, it interferes with the bacteria responsible for tooth decay. Decades of research show that regular xylitol use can significantly reduce cavity rates in both children and adults.

As a dental student, a mother and a Chicago Area Schweitzer Fellow working in community-based oral health programs, I see daily how structural barriers shape oral health outcomes. Even in well-informed households, ensuring that children brush consistently and effectively is not always simple. Real life is busy, routines are imperfect and prevention must account for these realities. Many families I work with are doing the best they can with the knowledge and resources available to them, yet their children continue to experience high rates of tooth decay. In these contexts, prevention must

be realistic, affordable and easy to sustain. Xylitol aligns with those needs.

Using xylitol in the form of gum or mints for just a few minutes after meals stimulates saliva, neutralizes acids in the mouth and helps protect teeth. It requires no dental equipment, no specialized training and no invasive procedures. Yet despite this, xylitol remains largely absent from school-based health programs and community prevention efforts in the United States.

Other countries have demonstrated what is possible. In Finland and Japan, xylitol use has been integrated into broader public health strategies, including school-based and maternal-child initiatives. Long-term studies in these countries have documented sustained reductions in cavity rates and bacterial levels when xylitol is used consistently. In the United States, we already embrace prevention through water fluoridation and school-based sealant programs. Expanding our prevention toolkit to thoughtfully include xylitol would build upon these established models.

Schools offer a logical starting point. Children spend much of their day in classrooms, making them ideal settings for small, routine-based interventions such as access to xylitol-containing mints or gum after meals. Structured implementation within school wellness programs could promote equity by reaching children who may

otherwise face limited access to preventive dental care.

However, the potential impact of xylitol extends beyond schools. Research suggests that use among caregivers, including pregnant mothers, may reduce the transmission of cavity-causing bacteria to infants. Individuals with orthodontic appliances, reduced salivary flow, disabilities that make brushing difficult or limited access to routine dental care may also benefit from additional preventive support. In this sense, xylitol is not simply a school-based intervention; it is a scalable community-level strategy.

Imagine a school environment where children are encouraged to use xylitol mints or gum after lunch, just as routinely as they are reminded to wash their hands. Imagine community centers, Head Start programs and after-school initiatives providing xylitol education and access as part of their wellness efforts. The cost of such programs is relatively low, especially when compared to the financial, emotional and educational burden of untreated dental disease.

Xylitol is not a replacement for brushing, flossing, fluoride or regular dental visits. It is a complementary tool that can strengthen existing prevention efforts. Public health progress rarely depends on a single solution. Meaningful change happens when practical, evidence-based strategies work together. Xylitol is an underused tool that deserves a place in our prevention toolkit.

If we are serious about reducing oral health disparities and supporting children's well-being, we must prioritize prevention where they live and learn. It is time to move beyond treating cavities after they happen and invest in solutions that are simple, scalable and grounded in science.

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