

Xylitol Most Effective Before Tooth Eruption

Most xylitol studies have focused on the caries activity relating to permanent teeth. Between 1990 and 1992, 510 children with a mean age of six at the start of the study were evaluated for the effects of xylitol, sorbitol and a combination of the two delivered in chewing gum. Effects were measured on both primary and permanent teeth. The study took place in Dangriga, Belize. Five years after completion of the study, researchers returned to Belize to determine if any long-term effects were evident from the xylitol or sorbitol chewing gums.

After completion of the two-year study, no xylitol or sorbitol gums were commercially available to the children. Of the 510 original study children, 301 were available for reexamination. At-risk tooth surfaces were divided into four subgroups based on eruption:

- 1) before gum chewing,
- 2) first year of gum chewing,
- 3) second year of gum chewing and
- 4) after gum chewing.

The highest caries experience was found in the no gum group and the 100 percent sorbitol group, with no significant difference between these two groups. The least caries experience was in the 100 percent xylitol group. The combination group with xylitol and sorbitol was better than no gum, but not as effective as 100 percent xylitol. The proportion of decayed surfaces was 1.2 percent in the xylitol group compared to 3.3 percent in the no gum group. Xylitol reduced risk by 88 percent and xylitol/sorbitol by 64 percent.

CLINICAL IMPLICATIONS:

For long-term effects, xylitol use should begin one year before permanent teeth erupt.

*Hujoel, P., Mäkinen, K., Bennett, C., Isotupa, K., Isokangas, P., Allen, P.:
The Optimum Time to Initiate Habitual Xylitol Gum-Chewing for Obtaining Long-Term Caries Prevention. J Dent Res 78 (3) 797-803, 1999.*

