

Effect of maternal use of chewing gums containing xylitol, chlorhexidine or fluoride on mutans streptococci colonization in the mothers' infant children.

Thorild I, Lindau B, Twetman S.

Public Dental Clinic, Varberg, Sweden.

PURPOSE: The aim was to evaluate the effect of maternal use of chewing gums containing xylitol, chlorhexidine/xylitol or fluoride on the prevalence of mutans streptococci (MS) in the mothers' 18-month-old offsprings. **MATERIALS AND METHODS:** After screening 416 women with newborn babies, 173 mothers with high counts of salivary MS were randomly assigned into three experimental chewing gum groups containing A) xylitol, B) chlorhexidine/xylitol and C) sodium fluoride. Mothers with low or medium MS counts formed a reference group D without any intervention. The participants in the experimental groups were instructed to chew one gum for 5 minutes, three times a day. The chewing was initiated when the child was 6 months old and terminated one year later. The outcome measure was MS colonization in mothers' 18-month-old infants. Bacterial sampling and cultivation was carried out with the Strip mutans technique. **RESULTS:** The MS prevalence was 10%, 16%, and 28% in groups A, B, and C respectively. In the reference group D, 10% of the infants harbored MS. The difference between group C and groups A and B was statistically significant ($p < 0.05$). The colonization levels in groups A and B were similar to those obtained in children of mothers with low MS counts (group D). **CONCLUSION: Maternal consumption of xylitol- and chlorhexidine/xylitol-containing chewing gums significantly reduced the mother-child transmission of salivary mutans streptococci.**

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