Table 2.--Sugar Alcohols and Dental Caries--Continued

Study	Study Design	Subjects	Methods	Results	Comments
Frostell et al., 1974 (Ref. 31)	Intervention to determine the effect on caries increment of substitution of HSH for S in candy (The Roslagen Study)	225 children,: ages 2-1/2 to 4 years	1-1/2 to 2-1/2 year study. Test group consumed candy with HSH. Composition of carbohydrate component of candy: SOR 10%, dimeric saccharide alcohols (mainly mannitol) 7.5%, trimeric saccharide alcohols 7%, tetrameric saccharide alcohols 7%, pentameric saccharide alcohols 6%, hexameric and higher saccharide alcohols 62%. No HSH gum was made but Ss in test group allowed to chew SOR gum. Candy consumption checked by use of a coupon system. Parents bought candy and storekeepers returned coupon to investigators. C group consumed S candy, also bought with coupons. Not all parents and storekeepers followed through on use of coupons. Ss examined clinically twice a year for total of 6 times (K1-K6). DMFS and DMFT index calculated at each exam. Plaque quantity and any gingival inflammation were also recorded. Periods K1 and K2 - baseline (no intervention). Statistical methods not reported.	Out of 225 Ss, 113 participated through the entire experimental period. Reasons for dropout are given in the study. At baseline and during observation period, K1-K2, there was no statistical difference between HSH and control groups in DMFS. **Caries increment, periods K2-K4 (baseline to 1 yr intervention)** C HSH C HSH DMFS DMFT K2-K4 1.10 2.79 1.84 1.67 Per cent difference 15.5 9.2 **Caries increment, periods K2-K5 (baseline to 1-1/2 yr intervention)** C HSH C HSH DMFS DMFT K2-K5 4.70 2.86 2.76 2.10 Per cent difference 27.0 23.4 **Caries increment, periods K2-K6 (baseline to 2 yr intervention)** C HSH C HSH DMFS DMFT K2-K6 6.95 5.97 1.67 2.79 Per cent difference 14.1 24.0 None of the differences between groups was statistically significant.	Authors state that an analysis of coupons (given to the HSH group) sent in by store owners showed a smaller number than coupons from the control group. Inquiry with parents of children in HSH group revealed that they gave their children other candy as well and that HSH candy varied from 50 to 75 percent of total candy consumption. Authors reported that some investigators over recorded and others under recorded dental caries. Since exams were every 6 months, authors state that it was possible to correct most of the effects of the differences in diagnosis. Authors state the results show a tendency for reduced caries with HSH; this tendency was most obvious after 1-1/2 years of intervention but decreased after 2 years, which is unexpected. Due to the problems in this study of poor compliance, inter-examiner variability, lack of blinding, and inconsistent results, the results of this study do not support significant dental benefits from use of HSH candies in place of S-containing candies.
Glass, 1983 (Ref. 32)	Intervention to evaluate the cariogenicity by regular use of SOR gum, randomized	540 children, ages 7-11 years in a nonfluoridated area	2 year study. Ss randomly assigned to one of two groups; although all Ss living at the same street address were assigned to the same study group. Control - no gum group; Gum group (2 sticks per day). 4 sticks available for use at home. Intake of SOR from gum not reported. Examinations yearly. Examiners were blinded as to the group assignment of each child.	43 dropouts from the study due to changes of school or residence. There were no significant differences between groups in age, sound teeth, surfaces at risk of caries, and past caries experience. There were no statistically significant differences between groups over the two year period. **Analysis of mean caries increments over 2 years** SOR Control t New DF teeth 2.53 2.55 0.09 New DF surfaces 4.63 4.70 0.15 n 269 271	Authors state that the amount of gum chewed by the Ss in this study was around 3-8 times greater than the estimated 90th percentile. Composition of gum was not given. Mean SOR intake was not given. Mean daily S intake of the groups was not given. Gum chewing has been demonstrated to have an anti-caries effect, regardless of sweetener, by stimulating saliva which buffers pH and provides calcium and phosphorus to aid remineralization of enamel. Because this effect was not considered in this study, it is inconclusive to state the effect, if any, that SOR contributed to the lower caries rate in the test group.