

Pengaruh pasta gigi mengandung xylitol terhadap pertumbuhan *Streptococcus mutans* serotipe E (in vitro)

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Abstrak

Streptococcus mutans serotype E is a major bacterium causing caries, and widely present in dental plaque. Dentifrices containing xylitol have been shown to inhibit the growth of these mutans streptococci. The aim of the study was to identify the influence of dentifrice containing xylitol on *S. mutans* serotype E (in vitro). The 1:1 solution of dentifrice containing xylitol was diluted to the test concentrations of 100%, 10%, 1%, 0.1%, 0.01%, and 0.001%, in addition to positive and negative control groups. These solutions were examined in *S. mutans* serotype E test cultures by the diffusion method. The resulting inhibition zone was 2.16 mm at a concentration of 10%, and 3.0 mm at a concentration of 100%. Zero zone size was found at all other test concentrations, and a significant (Spearman) negative correlation was indicated between the concentration of dentifrice and the growth of mutans streptococci ($p < 0.05$). The MIC was not been identified, but MBC was 10%. In conclusion, the dentifrice containing xylitol can significantly inhibit the growth of *S. mutans* serotype E at least at dentifrice concentrations of 5-10%.