

INTISARI

Masalah kesehatan gigi dan mulut tertinggi yang dialami masyarakat dapat disebabkan oleh terdapatnya plak gigi. Pertumbuhan plak dapat dicegah dengan cara mekanis dan kimiawi. Mengunyah permen karet bebas gula memiliki pengaruh dalam menurunkan plak gigi. *Xylitol* merupakan pemanis alami non kariogenik yang tidak dapat difermentasikan oleh bakteri plak. Tujuan penelitian ini untuk mengetahui pengaruh lama mengunyah permen karet *xylitol* terhadap pertumbuhan plak gigi pada anak usia 10-12 tahun.

Jenis penelitian ini adalah eksperimental semu rancangan *pre and posttest design*. Subjek penelitian berjumlah 15 anak berusia 10-12 tahun di Panti Asuhan Darul Yatama An-Najah. Setiap subjek menerima tiga macam perlakuan untuk lama mengunyah permen karet *xylitol* yaitu pengunyahan selama 2,5 menit, 5 menit, dan 10 menit. Antar perlakuan dilakukan periode *washout* selama 2 hari. Konsumsi permen karet *xylitol* dilakukan sebanyak tiga kali sehari pada masing-masing perlakuan. Data berupa pertumbuhan plak gigi yang dinilai dengan indeks plak PHP modifikasi Amith dkk. (2007). Data dianalisis dengan *One way-Anova* dan *Post Hoc LSD* untuk melihat signifikansi perbedaan antar perlakuan.

Hasil penelitian menunjukkan rerata selisih indeks plak sebelum dan sesudah mengunyah permen karet *xylitol* selama 10 menit lebih tinggi daripada 5 menit dan 2,5 menit. Hasil uji statistik menunjukkan bahwa terdapat perbedaan bermakna lama mengunyah permen karet *xylitol* terhadap pertumbuhan plak gigi pada anak usia 10-12 tahun ($p=0,000$). Kesimpulan dari penelitian ini mengunyah permen karet *xylitol* selama 10 menit lebih menurunkan pertumbuhan plak gigi dibanding dengan mengunyah permen karet *xylitol* selama 5 menit dan 2,5 menit pada anak usia 10-12 tahun.

Kata Kunci: lama mengunyah, permen karet *xylitol*, plak gigi

ABSTRACT

The highest problem in oral health is caused by presence of dental plaque. The growth of plaque can be prevented through mechanical and chemical way. Sugarfree chewing gum has been reported to decrease the dental plaque. Xylitol is a natural non-cariogenic sweetener which is not fermented with plaque bacteria. The aim of this study was to determine the effect of duration on chewing xylitol gum in growth of dental plaque in children aged 10-12 years old.

This study is a quasi-experimental with pre and posttest design. The subject consist of 15 children aged 10-12 years old in Darul Yatama An-Najah Orphanage. The subject was received three treatments of duration chewing xylitol gum for 2.5 minutes, 5 minutes, and 10 minutes. Each treatment had washed out period for 2 days. Consumption of xylitol chewing gum was performed three times a day for each treatment. The data were analyzed by One-way Anova and Post Hoc LSD to see the significant of differences among the treatment.

This study showed there were differences of average plaque index before and after chewing xylitol gum for 10 minutes was higher than 5 minutes and 2.5 minutes. There were significant statistically differences of duration chewing xylitol gum on the growth of dental plaque in children aged 10-12 years old ($p=0.000$). The conclusion of this study was chewing xylitol gum for 10 minutes decreased the growth of dental plaque compared by chewing xylitol gum for 5 minutes and 2.5 minutes in children aged 10-12 years old.

Keywords: duration of chewing, xylitol chewing gum, dental plaque