

DIFFERENCES IN THE EFFECTIVENESS OF GARGLING CONTAINING ESSENTIAL OILS AND CHLORHEXIDINE ON SCORES DENTAL PLAQUE IN USERS OF FIXED ORTHODONTICS

Avifka Nada Rahmasari*, Herastuti Sulistyani, Ety Yuniarly
Department of Dental Health Poltekkes Kemenkes Yogyakarta
Jl. Kyai Mojo No. 56 Pingit Yogyakarta
*Email: avifkanada14@gmail.com

ABSTRACT

Background: The Indonesian population is experiencing an increase in dental and oral problems, one of which is crowding. Fixed orthodontic treatment is expected to achieve optimal tooth arrangement and function. Fixed orthodontic devices have a complicated shape that makes it easier for plaque formation. Reinforced by data from a private dental clinic in Yogyakarta, 70% of users of fixed orthodontics have poor Orthodontic Plaque Index (OPI) score criteria. The way to control plaque besides brushing teeth is by using mouthwash.

Objective: To investigate the difference in effectiveness of mouth rinse using mouthwash containing essential oil and chlorhexidine on dental plaque score in fixed orthodontic users.

Methods: Quasi Experimental research with pretest and posttest control group design. The sampling technique used purposive sampling with a total of 60 respondents. The independent variable is gargling containing essential oils and chlorhexidine, the dependent variable is the plaque score of users of fixed orthodontics. Research instrument with OPI assessment format before and after treatment. Data analysis using Wilcoxon test and Man Whitney test.

Results: The dental plaque score of fixed orthodontic users before treatment of the experimental group was 56.7 and after treatment 51.5. The dental plaque score before being treated by the control group was 53.6 and after being treated 46.6. The Wilcoxon test showed a difference before and after being treated by the experimental group ($P = 0.000$) and the control group ($P = 0.000$). Man Whitney test showed a significant difference between the 2 groups ($P=0.047$).

Conclusion: Mouthwash containing chlorhexidine is more effective in reducing dental plaque scores in fixed orthodontic users than mouthwash containing essential oils.

Keywords: Mouthwash, Essential oil, Chlorhexidine, Orthodontic Plaque Index, Plaque, Fixed Orthodontics

**PERBEDAAN EFEKTIVITAS BERKUMUR YANG MENGANDUNG
ESSENTIAL OIL DAN CHLORHEXIDINE TERHADAP SKOR
PLAK GIGI PADA PENGGUNA ORTODONTIK CEKAT**

Avifka Nada Rahmasari*, Herastuti Sulistyani, Etty Yuniarly
Jurusan Kesehatan Gigi Poltekkes Kemenkes Yogyakarta
Jl. Kyai Mojo No. 56 Pingit Yogyakarta
*Email : avifkanada14@gmail.com

ABSTRAK

Latar Belakang: Penduduk Indonesia mengalami peningkatan masalah gigi dan mulut salah satunya gigi berjejal. Perawatan ortodontik cekat diharapkan dapat mencapai susunan dan fungsi gigi yang optimal. Alat ortodontik cekat memiliki bentuk yang rumit sehingga mempermudah terbentuknya plak. Diperkuat dari data di klinik gigi swasta Yogyakarta, 70% pengguna ortodontik cekat memiliki kriteria skor *Orthodontic Plaque Index* (OPI) buruk. Cara untuk mengontrol plak selain menyikat gigi yaitu dengan penggunaan obat kumur.

Tujuan: Diketahui perbedaan efektivitas berkumur menggunakan obat kumur yang mengandung *essential oil* dan *chlorhexidine* terhadap skor plak gigi pada pengguna ortodontik cekat.

Metode: Jenis penelitian *Quasi Experimental* dengan rancangan *pretest and posttest control group design*. Teknik pengambilan sampel menggunakan *purposive sampling* dengan jumlah 60 responden. Variabel bebas yaitu berkumur yang mengandung *essential oil* dan *chlorhexidine*, variabel terikat yaitu skor plak pengguna ortodontik cekat. Instrument penelitian dengan format penilaian OPI sebelum dan sesudah diberi perlakuan. Analisis data menggunakan uji *Wilcoxon* dan uji *Man Whitney*.

Hasil: Skor plak gigi pengguna ortodontik cekat sebelum diberi perlakuan kelompok eksperimen adalah 56,7 dan setelah diberi perlakuan 51,5. Skor plak gigi sebelum diberi perlakuan kelompok kontrol adalah 53,6 dan setelah diberi perlakuan 46,6. Uji *Wilcoxon* menunjukkan adanya perbedaan sebelum dan sesudah diberi perlakuan kelompok eksperimen ($P=0,000$), kelompok kontrol ($P=0,000$). Uji *Man Whitney* menunjukkan adanya perbedaan yang signifikan antara 2 kelompok ($P=0,047$).

Kesimpulan: Obat kumur yang mengandung *chlorhexidine* lebih efektif menurunkan skor plak gigi pada pengguna ortodontik cekat dibandingkan obat kumur yang mengandung *essential oil*.

Kata Kunci: Obat Kumur, *Essential oil*, *Chlorhexidine*, *Orthodontic Plaque Index*, Plak, Ortodontik cekat