

**EFEKTIVITAS PENGGUNAAN PASTA GIGI DAUN SIRIH TERHADAP PEMBENTUKAN PLAK PADA PEMAKAI PERANTI ORTODONTI CEKAT
(THE EFFECTIVITY OF BETEL LEAF TOOTHPASTE IN INHIBITING THE DENTAL PLAQUE FORMATION ON THE FIXED ORTHODONTIC PATIENTS)**

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DENTAL PLAQUE; FIXED ORTHODONTIC

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ABSTRACT

Background. Brackets, archwire, ligatures, and other orthodontic appliances complicate the use of conventional oral-hygiene measures. This often results in significant plaque accumulation around the bracket bases. The addition of betel leaf extract in toothpaste is expected to inhibit the growth of dental plaque. **Purpose.** The purpose of this study was to evaluate the effectivity of betel leaf toothpaste in inhibiting plaque formation on the fixed orthodontic patients. **Method.** This research was done to dental student of Airlangga University were those of aged 18-24 years, have been wearing fixed orthodontic appliances for 1-2 years, haven't systemic diseases. The samples were divided into two groups, consisting of 20 samples. Firstly, the samples brushed their teeth with betel leaf toothpaste and the second using placebo. The samples were then instructed to brush their teeth using Scrub method. After applying disclosing agent, plaque was scored using Orthodontic Plaque Index (OPI). The score was taken 4 hours after brushing. The statistical analysis was done by using paired T test. **Result.** The average of accumulated plaque on group that use betel leaf toothpaste is 25,54 and placebo is 41,09. The result showed that the comparison between the betel leaf toothpaste and placebo in 4 hours after brushing was significantly different (p value = $0,000 < \alpha = 0.05$). It meant that there was significantly difference in plaque after tooth brushing between betel leaf toothpaste and placebo. **Conclusion.** Betel leaf toothpaste is effective in inhibiting the dental plaque formation on the fixed orthodontic patients.

Keywords: Betel leaf toothpaste, dental plaque, fixed orthodontic patients