EFFICACY OF 12.38% PROPOLIS EXTRACT AND 0.2% CHLORHEXIDINE GLUCONATE AGAINST _Porphyromonas gingivalis_ BIOFILM

**ABSTRACT**

**Background.** Many studies have reported the most common cause of persistent inflammation is bacterial biofilms. Bacteria growing in the biofilm can be doubled up to a thousand more resistant to antimicrobial agents than planktonic form of the same bacteria. One of the dominant bacteria on periapical tissue damage is _Porphyromonas gingivalis_. The irrigation solution that often used to remove the bacteria is Chlorhexidine gluconate. However, chlorhexidine can’t dissolve necrotic tissue remnants and damage the soft tissue if used excessively, so it needs an alternative material that can eliminate these side effects. Propolis extract is an alternative material that contains flavonoid, terpenoid, apigenin and other synergistic compound as an antibacterial. **Purpose.** To find out the efficacy of 12.38% propolis extract and Chlorhexidine gluconate 0.2% against _Porphyromonas gingivalis_ biofilm. **Method.** This research is a laboratory experimental with post test only control group design. _Porphyromonas gingivalis_ ATCC 33277 was diluted according to Mc. Farland standard 10^6 CFU/mL in Tryptic Soy Broth (TSB) medium and inserted into microtitterplate flexible U bottom. Incubated for 6x24 hour and checked with a simple staining to see the formation of biofilm. Propolis extract and 0.2% Chlorhexidine gluconate was added and OD (optical density) readings done with a wavelength of 567 nm. **Result.** Average OD value of _Porphyromonas gingivalis_ biofilm after the addition of 12.38% propolis extract is 0.135 while after addition of 0.2% chlorhexidine gluconate is 0.481. **Conclusion.** 12.38% propolis extract has higher effectiveness than 0.2% chlorhexidine gluconate against _Porphyromonas gingivalis_ biofilm. **Keywords:** Propolis extract, Biofilm, _Porphyromonas gingivalis_, Chlorhexidine gluconate.