PERBEDAAN DAYA ANTIBIOFILM BAKTERI *P. GINGIVALIS* ANTARA EKSTRAK DAUN SIRIH MERAH DAN NaOCl 2,5%

(*ANTIBIOFILM ACTIVITY OF RED BETEL (PIPER CROCATUM) LEAF EXTRACT AND 2,5% NaOCl AGAINST P. GINGIVALIS BIOFILM)*

ABSTRACT

Background. *The endodontic pathogens are obligate anaerobic gram negative bacteria, conspicuously dominating in primary infections is Porphyromonas gingivalis, which can form biofilm in root canal. To remove biofilm, the first step is the degradation of EPS by oxidating agent such as chlorin, surfactant, or enzymes. NaOCl is a potent disinfectant with recognized strong bactericidal and antibiofilm properties. Piper crocatum (red betel vine) is one of potential herbal plant that contains bioactive antimicrobial substances such as saponins which has surfactant-like character.* ***Purpose.*** *The aim of this study is to find the difference of antibiofilm activity of red betel leaf extract and 2,5% NaOCl against P. gingivalis biofilm.* ***Method.*** *This research is a laboratory experimental with the post test only control group design. P. gingivalis cells were grown in microtiter plates for a desired period of time, and then the wells were washed to remove planktonic bacteria. Cells remaining adhered to the wells were subsequently stained with crystal violet to verify the biofilm formation. Red betel leaf extract and 2,5% NaOCl were put into the suitable labeled-well. After 24 hours of incubation, optical density (OD) of each well were measured.* ***Results.*** *Red betel leaf extract showed a decrease of OD value from control in all concentrations, while 2,5% NaOCl showed higher OD value than control.* ***Conclusion.*** *The difference of antibiofilm activity of red betel leaf extract and 2,5% NaOCl against P. gingivalis biofilm could not be determined.*

Keywords: *P. gingivalis biofilm, red betel leaf extract, sodium hypochlorite*