ABSTRACT

PENENTUAN KONSENTRASI HAMBAT MINIMAL (KHM) DAN KONSENTRASI BUNUH MINIMAL (KBM) EKSTRAK DAUN SIRIH MERAH TERHADAP BIOFILM BAKTERI *Porphyromonas gingivalis*

(DETERMINATION OF MINIMUM INHIBITORY CONCENTRATION (MIC) AND MINIMUM BACTERICIDAL CONCENTRATION (MBC) OF RED BETEL VINE EXTRACT AGAINST *Porphyromonas gingivalis* BACTERIAL BIOFILMS)

ABSTRACT

Background. *The endodontic pathogens are obligate anaerobic gram negative bacteria, conspicuously dominating in primary infections is Porphyromonas gingivalis. Piper crocatum is one of the most potential herbal plant in Indonesia with broad efficacy for various disease. Based on previous research, it is known that red betel vine extract contains bioactive antimicrobial substances such as alkaloids, saponins, tannins, flavonoids, and polyphenols. This antimicrobial bioactive components have diverse mechanisms against bacteria.* ***Purpose.*** *The aim of this study is to find out the antimicrobial effect of red betel vine extract against Porphyromonas gingivalis bacterial biofilms, by determining the minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC).* ***Method.*** *This research is a laboratory experimental with the post test only control group design. The antimicrobial activity test was performed by direct contact and continued by colony count to determine the value of MIC and MBC of red betel vine extract against Porphyromonas gingivalis bacterial biofilms.* ***Result.*** *There is no decreasing in the number of Porphyromonas gingivalis bacterial colonies at any concentration of red betel vine extract.* ***Conclusion.*** *The red betel vine extract doesn't has antibacterial effect on Porphyromonas gingivalis biofilm and no MIC and MBC values obtained.*

Keywords: *Red Betel Vine extract, antimicrobial, Porphyromonas gingivalis bacterial biofilm, MIC, MBC*