KEMAMPUAN ANTIBIOFILM FLAVONOID KULIT MANGGIS (*Garcinia mangostana L.*) TERHADAP BAKTERI *Streptococcus mutans*

(*ANTIBIOFILM ACTIVITY OF MANGOSTEEN (Garcinia mangostana L.) FLAVONOID AGAINST Streptococcus mutans BACTERIA*)

ABSTRACT

Background. *Dental caries is one of the most common infectious diseases and often occur in the community caused by bacteria. Attached bacteria to the tooth surface for a long time will form a biofilm and will be lead to demineralization, characterized by damage to the structure of the tooth enamel. The bacteria that cause dental caries and able to form biofilm is Streptococcus mutans. The bacteria inside biofilms are more resistant to antibacterial agents. Flavonoids in mangosteen peel extract as a cleaner alternative antibiofilm cavity which has properties against Streptococcus mutans.* ***Purpose****. To determine the activity of flavonoids mangosteen peel extract at a certain concentration against bacteria Streptococcus mutans.* ***Method****. This study was a laboratory experimental research with post-test only control group design. Streptococcus mutans diluted according to the standard dilution Mc Farland 106 in TSB medium and put in a flexible U-bottom microtiterplate. Then was incubated for 5x24 and be checked using crystal violet staining simple to see the formation of biofilms. Flavonoid extract of mangosteen peel performed serial dilution to a concentration of 100%, 50%, 25%, 12.5%, 6.25%, 3.125%, 1.56%, and 0.78% is added and incubation performed for 1x24 hours. And OD (Optical Density) readings done with a wavelength of 595 nm.* ***Results.*** *There was a significant difference between the test groups and positive control group. The experiment shows minimum Biofilm Inhibition Concentration (MBIC) on flavonoid extract of mangosteen peel with a concentration of 0,78% and the concentration of 100% has the antibiofilm activity and the value of the highest percentage of inhibition. The results had been demonstrated by statistical analysis test.* ***Conclusion.*** *Flavonoid extract of mangosteen peel at certain concentration has antibiofilm activity against Streptococcus mutans biofilm.*

Keywords: *Streptococcus mutans, antibiofilm, flavonoid, mangosteen extract*