

KEMAMPUAN ANTIBAKTERIAL FLAVONOID EKSTRAK KULIT MANGGIS TERHADAP BAKTERI KARIES DENTIN

ANTIBACTERIAL POTENCY OF FLAVONOID EXTRACT FROM MANGOSTEEN PERICARP AGAINST CARIOUS DENTINE BACTERIA

ABSTRACT

Background: Dentine is highly susceptible to variable and complex caries-causing microbial. Untreated carious dentine is related to clinical pulp exposure due to lesion's active progression. The main treatments are complete caries removal and application sterilization material in cavity. According some studies, this method failed to render caries-free cavities and have many side effects. Back to nature, there is alternative materials such as mangosteen pericarp. Mangosteen pericarp's active compound like flavonoid is a potential antibacterial agent. **Purpose:** The aim of this study is to know the antibacterial effect of flavonoid extract from mangosteen pericarp on mixed bacteria of carious dentine that determined by its minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC). **Method:** This research was a laboratory experimental study. Flavonoid was isolated from mangosteen pericarp extract by acetone and benzene liquid and diluted into several concentrations. Direct contact method between various concentration and mixed bacteria was used. Value of MIC and MBC were done by counting the bacteria colony in Nutrient agar. Growth of bacteria colonies was calculated manually in colony forming unit (CFU). **Result:** At the concentration of 1% flavonoid extract from mangosteen pericarp, show that the colony's growth less than 10% compared to positif control group. While at 1,56% of the extract, there was not any bacterial growth in Nutrient agar. **Conclusion:** The MIC of flavonoid extract from mangosteen pericarp against mixed bacteria of carious dentine was at 1% and the MBC was at 1,56%.

Keywords: Flavonoid, Mangosteen pericarp, Carious dentine bacteria, MIC, MBC