ABSTRACT

Antibacterial Activity of *Hibiscus sabdariffa* L. Aqueous Extract - HPMC 6000 Gel against *Staphylococcus aureus* ATCC 25923

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Recently, aqueous extract of *Hibiscus sabdariffa* L. calyces are widely used in the preparation of foods and beverages, but little report in their used for topical pharmaceutical preparation. Researches based on the extract activity as a natural antimicrobial have been reported. The extract solutions were tested for antibacterial activity against *Staphylococcus aureus* ATCC 25923 in Nutrient agar medium. Growth inhibition test was carried out by agar diffusion method, using hole as sample and gentamicin standard solution reservoir. The minimum inhibition concentration (MIC) of the extract was 0.1 mg/ml. In this research, the aqueous extract (3%) was formulated as a component of gel containing HPMC 6000 in various concentration (2%, 3%, and 4%). The gel then underwent viscosity, pH, spreadability, and antibacterial activity evaluation. Through this evaluation, the chosen formula was formula 2 containing 3% of HPMC 6000. Formula 2 then underwent MIC determination and the MIC of the gel preparation was 6.0 mg/ml. The inhibition zone of formula 2 equivalent to 7.58 ppm of gentamicin standard solution.

Keywords: *Hibiscus sabdariffa* aqueous extracts, antibacterial activity, gel, HPMC 6000, *Staphylococcus aureus*