

FACIAL TONER FORMULATION OF RED ROSELLA FLOWER (*Hibiscus sabdariffa* L.) AND ANTIBACTERIAL ACTIVITY TEST USING MIC AND MBC METHODS

Penulisan Ilmiah Prodi Farmasi, Fakultas Ilmu Kesehatan dan Farmasi, Universitas Gunadarma, 2024

ABSTRACT

*Rosella flower (*Hibiscus sabdariffa* L.) is a plant of the Malvaceae which contains flavonoids, alkaloids, saponins, and tannins. These compounds are known to have antibacterial activity, so they are thought to be able to cure acne-causing bacteria, one of which is *Propinibacterium acnes*. Toner in the form of a facial freshener becomes a toner preparation which can remove excess sebum that causes acne. In this research, facial toner preparation was formulated from Rosella as a facial skin care and anti-acne. Rosella flower extract contains flavonoids, saponins, tannins, and phenols which contain antibacterial activity. To determine the antibacterial activity of Rosella flower extract, tests were carried out with the minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) methods. The formulation of facial toner was done using variations of Rosella flower extract, namely F1 (10%), F2 (15%), F3 (20%), F4 (25%), and F5 (30%). Physical evaluation of the facial toner preparation included organoleptic, pH, viscosity, and homogeneity. The results showed that the five formulations were liquid, purplish red in color, had a distinctive and slightly pungent odor, had a pH range of 4.08-5.85, had a viscosity of 6,67 mPas. The best formulation of facial toner preparation was formulation 4 with a concentration of 25% Rosella flower extract, which had inhibitory power against *P. acnes* bacteria. The stability test results of the facial toner preparation with cycling test showed that the facial toner preparation was stable during storage, but experienced a decrease in pH which was thought to be due to the antioxidant content in the Rosella flower extract being acidic. Thus, the Rosella flower extract facial toner can be used as an anti-acne because it has antibacterial activity against acne-causing bacteria, namely *P. acnes*.*

Keywords: Antibacterial activity, Roselle flower extract, formulation, toner.

(xiv + 67 + Attachment)

References (2000-2024)