

ABSTRAK

RAMBU KUDU MBAKUNDIMA, 2024, PENGARUH VARIASI HPMC TERHADAP MUTU FISIK DAN STABILITAS SEDIAAN EMULGEL MINYAK ATSIRI ROSEMARY (*Rosmarinus officinalis* L.), KARYA TULIS ILMIAH, PROGRAM STUDI D-III FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI SURAKARTA. Dibimbing oleh Drs. apt. Widodo Priyanto, MM.

Emulgel adalah sediaan setengah padat berupa emulsi dan gel dimana viskositas ditingkatkan dengan penambahan *gelling agent*. Minyak atsiri rosemary mengandung senyawa 1,8-*cineol* dan *alpha-pinene* yang memiliki aktivitas antibakteri sehingga dapat berpotensi sebagai antijerawat. Penelitian ini bertujuan untuk menghasilkan sediaan emulgel minyak atsiri rosemary yang stabil secara fisik dan memiliki aktivitas antibakteri optimal sebagai anti jerawat, serta mengetahui pengaruh variasi konsentrasi HPMC terhadap mutu fisik dan stabilitas sediaanannya. Minyak atsiri rosemary bersifat hidrofobik sehingga sesuai diformulasikan menjadi emulgel. Penelitian ini menggunakan *gelling agent* berupa HPMC, yang berperan dalam penentuan sifat dan karakteristik sediaan emulgel.

Emulgel minyak atsiri rosemary dibuat dalam 3 formula dengan variasi konsentrasi HPMC 1,5%, 2,5% dan 3,5%. Sediaan emulgel yang dihasilkan diuji mutu fisik emulgel meliputi organoleptis, homogenitas, pH, viskositas, daya lekat, daya sebar, tipe emulsi, dan stabilitas. Hasil data dianalisis menggunakan program IBM SPSS Statistics version 27 dengan metode Normalitas, Homogenitas, ANOVA *one-way* dan *Paired Sample T-test*.

Hasil penelitian menunjukkan bahwa dengan adanya perbedaan konsentrasi HPMC di setiap formula menyebabkan hasil uji mutu fisik (meliputi organoleptis, homogenitas, pH, viskositas, daya lekat, daya sebar, tipe emulsi, dan uji stabilitas) yang berbeda-beda. Formula dengan hasil uji paling baik adalah formula 2 dengan konsentrasi HPMC 2,5%.

Kata Kunci : Minyak atsiri rosemary (*Rosmarinus officinalis* L.), Emulgel, Antijerawat.

ABSTRACT

RAMBU KUDU MBAKUNDIMA, 2024, INFLUENCE OF HPMC VARIATIONS ON THE PHYSICAL QUALITY AND STABILITY OF ROSEMARY (*Rosmarinus officinalis* L.) OIL EMULGEL DISHES, SCIENTIFIC WRITING, D-III PHARMACY STUDY PROGRAM, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY SURAKARTA. Supervised by Drs. apt. Widodo Priyanto, MM.

Emulgels are semi-solid preparations in the form of emulsions and gels where viscosity is increased by the addition of a gelling agent. Rosemary essential oil contains 1,8-cineol and alpha-pinene compounds that have antibacterial activity so that they can have potential as anti-acne. This study aims to produce rosemary essential oil emulgel preparations that are physically stable and have optimal antibacterial activity as anti-acne, and to determine the effect of variations in HPMC concentration on the physical quality and stability of the preparation. Rosemary essential oil is hydrophobic so it is suitable to be formulated into emulgel. This study uses a gelling agent in the form of HPMC, which plays a role in determining the properties and characteristics of emulgel preparations.

Rosemary essential oil emulgel was prepared in 3 formulas with varying concentrations of HPMC 1.5%, 2.5% and 3.5%. The resulting emulgel preparations were tested for physical quality including organoleptics, homogeneity, pH, viscosity, adhesion, spreadability, emulsion type, and stability. Data results were analyzed using the IBM SPSS Statistics version 27 program with the methods of Normality, Homogeneity, one-way ANOVA and Paired Sample T-test.

The results showed that the different concentrations of HPMC in each formula caused different physical quality test results (including organoleptic, homogeneity, pH, viscosity, adhesion, spreadability, emulsion type, and stability test). The formula with the best test results is formula 2 with an HPMC concentration of 2.5%.

Keywords : Rosemary essential oil (*Rosmarinus officinalis* L.), Emulgel, Anti-acne.