

ABSTRAK

RIZKY DIAN RAHMAWATI, 2022, FORMULASI DAN UJI MUTU FISIK SABUN CAIR MINYAK ATSIRI NILAM (*Pogostemon cablin*) DENGAN VARIASI KONSENTRASI HPMC (*Hydroxypropyl Methylcellulose*), KARYA TULIS ILMIAH, PROGRAM STUDI D-III FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI. Dibimbing oleh apt. Dra. Suhartinah, M.Sc.

Minyak atsiri nilam mengandung *patchouli alcohol* yang diketahui memiliki aktivitas antibakteri. Minyak atsiri nilam dapat dibuat formulasi dalam bentuk sediaan sabun cair. Sabun cair antibakteri banyak diminati masyarakat untuk melindungi tubuh dari bakteri pathogen. HPMC adalah salah satu bahan tambahan dalam formulasi sabun cair sebagai agen pengental untuk memperoleh konsistensi yang baik. Tujuan umum penelitian ini adalah untuk mengetahui pengaruh variasi konsentrasi *Hydroxypropyl Methylcellulose* (HPMC) terhadap mutu fisik sediaan sabun cair minyak atsiri nilam dan konsentrasi HPMC dalam formulasi sabun cair minyak atsiri nilam yang memiliki mutu fisik paling baik.

Sabun cair minyak atsiri nilam dibuat dalam 3 formula, yaitu F1, F2, dan F3 yang mengandung HPMC masing-masing sebanyak 1%, 1,5%, dan 2%. Penentuan pengaruh variasi konsentrasi HPMC dan konsentrasi HPMC terbaik dilakukan dengan pengujian sediaan yang meliputi uji organoleptis, uji homogenitas, uji pH, uji viskositas, uji tinggi busa, dan uji stabilitas busa pada hari ke-0 dan hari ke-28. Data dianalisis dengan membandingkan hasil dengan beberapa literatur dan pendekatan statistik menggunakan program SPSS.

Hasil penelitian menunjukkan variasi konsentrasi HPMC mempengaruhi mutu fisik sabun cair minyak atsiri nilam. Peningkatan konsentrasi HPMC berpengaruh meningkatkan viskositas dan mengubah bentuk sabun cair menjadi lebih kental, tetapi menurunkan pH dan tinggi busa. Konsentrasi HPMC 1% memiliki mutu fisik paling baik. Hasil uji menunjukkan konsentrasi HPMC 1% memiliki bau, warna, bentuk, pH, tinggi busa, dan stabilitas busa sesuai literatur.

Kata kunci : minyak atsiri nilam, sabun cair, HPMC, uji mutu fisik

ABSTRACT

RIZKY DIAN RAHMAWATI, 2022, FORMULATION AND PHYSICAL QUALITY TEST OF PATCHOULI ESSENTIAL OIL (*Pogostemon cablin*) LIQUID SOAP WITH VARIATIONS OF HPMC (*Hydroxypropyl Methylcellulose*) CONCENTRATION, SCIENTIFIC PAPERS, D-III PHARMACEUTICAL STUDY PROGRAM, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY. Supervised by apt. Dra. Suhartinah, M.Sc.

Patchouli essential oil contains *patchouli alcohol* which is known to have antibacterial activity. Patchouli essential oil can be formulated in the form of liquid soap. Antibacterial liquid soap is in great demand by the public to protect the body from pathogenic bacteria. HPMC is one of the additives in liquid soap formulations as a thickening agent to obtain a good consistency. The general objective of this study was to determine the effect of variations in the concentration of *Hydroxypropyl Methylcellulose* (HPMC) on the physical quality of patchouli essential oil liquid soap preparations and the concentration of HPMC in the formulation of patchouli essential oil liquid soap which had the best physical quality.

Patchouli essential oil liquid soap is made in 3 formulas, namely F1, F2, and F3 containing 1%, 1.5%, and 2% HPMC, respectively. Determination of the effect of variations in HPMC concentration and the best HPMC concentration was carried out by testing the preparations which included organoleptic tests, homogeneity tests, pH tests, viscosity tests, foam height tests, and foam stability tests on day 0 and day 28. Data were analyzed by comparing the results with several literatures and statistical approaches using the SPSS program.

The results showed that variations in HPMC concentration affected the physical quality of patchouli essential oil liquid soap. Increasing the concentration of HPMC has an effect on increasing the viscosity and changing the form of liquid soap to be thicker, but lowering the pH and foam height. HPMC 1% concentration has the best physical qualities. The test results showed that 1% HPMC concentration had odor, color, shape, pH, foam height, and foam stability according to the literature.

Keywords: patchouli essential oil, liquid soap, HPMC, physical quality test