INTISARI

SAPUTRI, A.D.S, 2015, OPTIMASI FORMULA KRIM MINYAK ATSIRI DAUN ROSEMARY (*Rosemarinus Officinale* L.) MENGGUNAKAN EMULGATOR TWEEN 80 DAN SPAN 80 SEBAGAI ANTIBAKTERI DENGAN METODE DESAIN FAKTORIAL, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Daun rosemary (*Rosemarinus Officinale* L.) merupakan bahan obat tradisional dengan kandungan minyak atsiri yang efektif sebagai antibakteri. Sediaan krim dipilih karena sesuai dengan penggunaan yang praktis. Penelitian ini bertujuan untuk mendapatkan formula optimum krim minyak atsiri daun rosemary dengan proporsi emulgator tween 80 dan span 80 berdasarkan metode desain factorial dan mengetahui aktivitas antibakteri dari formula optimum terhadap *Staphylococcus aureus* ATCC 25923.

Minyak atsiri daun rosemary diperoleh dengan cara destilasi air. Krim dibuat dalam empat formula berdasarkan metode desain faktorial. Krim yang dihasilkan diuji sifat fisika kimia dan biologisnya meliputi organoleptis, nilai pH, viskositas, daya sebar, daya lekat, perubahan viskositas dan aktivitas antibakteri dengan metode difusi. Data yang diperoleh dari pengujian sifat fisik selama 4 minggu pengamatan dan penyimpanan menggunakan *Design Expert version* 8.0.6.1. Data penguujian sifat fisik krim formula optimum dianalisis secara statistik menggunakan uji-t dengan taraf kepercayaan 95%. Metode difusi digunakan untuk menguji aktivitas antibakteri krim minyak atsiri daun rosemary formula optimum.

Hasil penelitian menunjukan formula optimum krim minyak atsiri daun rosemary diperoleh pada proporsi tween 80 dan span 80 sebesar 0,94 : 8,13 . Respon sifat fisik formula optimum dari hasil nilai prediksi dan nilai percobaan menunjukkan tidak ada beda signifikan. Aktivitas antibakteri krim minyak atsiri optimum diperoleh rata-rata zona hambat sebesar 18,7 mm.

Kata kunci : antibakteri, minyak atsiri daun rosemary (*Rosemarinus Offinale* L.), desain factorial, krim, *Staphylococcus aureus* ATCC 25923.

ABSTRACT

SAPUTRI, A.D.S, 2015, FORMULA OPTIMIZATION OF ROSEMARY LEAF ESSENTIAL OIL CREAM (*Rosemarinus Officinale* L.) AS ANTIBACTERIAL USING TWEEN 80 AND SPAN 80 EMULGATOR WITH A FACTORIAL DESIGN METHOD, THESIS, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA.

The leaves of rosemary (Rosemarinus Officinale l.) is a traditional medicinal ingredients with essential oils that are effective as antibacterial. The use of essential oils directly assessed less practical, so it was made a cream preparations. Thes study was aims obtained to get the optimum formula cream of essential oils of rosemary leaves with a proportion of emulgator tween 80 and span 80 based on factorial design method and the optimum formula of antibacterial activity against Staphylococcus aureus ATCC 25923.

Isolation of rosemary leaf essential oil was done using water distillation method. The Cream was made in four formulas based on factorial design method. The obtained cream were tested its four physical properties, i.e organoleptic, viscocity, pH, spread ability, adhesivity, pH value, and antibacterial activity with difution method. The optimum obtained formula using the formula Design Expert version 8.0.6.1 created and tested his physical properties. predicted was compared with the experimentation result using T-test. The antibacterial activity of the optimum formula was tested by diffusion method.

The results of this research provide the Optimum formula of Rosemary leaf volatile oil cream was obtained from the proportion of Tween 80 : Span 80 0,94 : 8,13. The response indicated that it did not have significant differentiation between predict percentage and the experimentation result. Antibacterial activity of optimum formula resulted 18,7 mm inhibition zone.

Keywords: antibacterial, leaf essential oil of rosemary (Rosemarinus Offinale L.), factorial design, cream, Staphylococcus aureus ATCC 25923.