INTISARI

SUDIRMAN, W., 2019, FORMULASI DAN UJI AKTIVITAS ANTIBAKTERI *COLD CREAM* TUNGGAL DAN KOMBINASI EKSTRAK DAUN BINAHONG (*Anredera cordifolia* (Ten.) Steenis) DAN DAUN PEGAGAN (*Centella asiatica* (L.) Urban) TERHADAP *Staphylococcus aureus* ATCC 25923, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Staphylococcus aureus merupakan penyebab dari 51% infeksi piogenik pada kulit. Infeksi kulit akibat dari *Staphylococcus aureus* berupa bisul, jerawat, dan infeksi pada luka. Salah satu alternatif pengobatan infeksi kulit akibat *Staphylococcus aureus* adalah ekstrak dari daun binahong (*Anredera cordifolia* (Ten.) Steenis) dan daun pegagan (*Centella asiatica* (L.) Urban). Kedua ekstrak sudah diteliti secara *in vitro* dan *in vivo* memiliki daya penyembuhan infeksi akibat *Staphylococcus aureus* yang efektif. Penelitian ini bertujuan untuk mengetahui apakah kombinasi daun binahong dan daun pegagan dapat diformulasikan dalam bentuk sediaan *cold cream*, bagaimana mutu fisik *cold cream* kombinasi dan bagaimana aktivitas antibakterinya pada kulit kelinci yang diinduksi oleh *Staphylococcus aureus*.

Daun binahong dan daun pegagan di ekstraksi menggunakan metode remaserasi. Kedua ekstrak diuji kandungan flavonoid, alkaloid, saponin dan tanin. Kedua ekstrak diformulasikan ke dalam bentuk sediaan *cold cream* secara tunggal dan kombinasi dengan basis cera alba, cetaceum, parafin cair dan air. *Cold cream* tunggal mengandung 5% ekstrak daun binahong atau daun pegagan. *Cold cream* kombinasi mengandung 2,5% ekstrak daun binahong dan 2,5% ekstrak daun pegagan. *Cold cream* diuji mutu fisiknya berupa, organoleptis, viskositas, pH, daya sebar dan daya lekat, serta uji stabilitas metode *freeze thaw*. uji aktivitas antibakteri dilakukan pada kulit kelinci yang diinduksi *Staphylococcus aureus* dan diamati diameter eritema, ketebalan udem dan keberadaan nanah. Data hasil pengamatan diuji statistik menggunakan *Komogorov-Smirnov*, dilanjutkan uji Two-way ANOVA atau uji *Kruskal-Wallis* dan uji *Mann-Whitney*.

Hasil pengamatan menunjukkan kombinasi kedua ektrak dapat diformulasikan dalam bentuk *cold cream*. Mutu fisik *cold cream* kombinasi secara organoleptis, viskositas, pH, daya sebar dan daya lekat dikatakan baik. Uji stabilitas metode *freeze thaw* menunjukkan *cold cream* kombinasi stabil dalam 5 siklus pengujian. Daya penyembuhan *cold cream* kombinasi pada kulit kelinci merupakan yang terbaik dibandingkan dengan *cold cream* tunggal.

Kata kunci : Daun Binahong (*Anredera cordifolia* (Ten.) Steenis), Daun Pegagan (*Centella asiatica* (L.) Urban), *Cold cream*, Antibakteri, *Staphylococcus aureus*

ABSTRACT

SUDIRMAN, W., 2019, FORMULATION AND ACTIVITY TEST OF ANTIBACTERIAL COLD SINGLE CREAM AND COMBINATION OF BINAHONG LEAF EXTRACT (*Anredera cordifolia* (Ten.) Steenis) AND PEGAGAN LEAF (*Centella asiatica* (L.) Urban) ON *Staphylococcus aureus* ATCC 25923, SKRIPSI, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA

Staphylococcus aureus is the cause of 51% of pyogenic infections of the skin. Whistle infections caused by *Staphylococcus aureus* are ulcers, pimples, and infections of the wound. One alternative treatment for skin infections due to *Staphylococcus aureus* is extract from binahong leaves (*Anredera cordifolia* (Ten.) Steenis) and pegagan leaves (*Centella asiatica* (L.) Urban). Both extracts have been studied in vitro and in vivo has the ability to cure infections due to effective *Staphylococcus aureus*. This study aims to determine whether the combination of binahong leaves and pegagan leaves can be formulated in the form of *cold cream* preparations, how the physical quality of *cold cream* is combined and how its antibacterial activity on rabbit skin is induced by *Staphylococcus aureus*.

Binahong leaves and pegagan leaves are extracted using the remaseration method. Both extracts were tested for the content of flavonoids, alkaloids, saponins and tannins. Both extracts are formulated into *cold cream* preparations singly and in combination with the basis of cera alba, cetaceum, liquid paraffin and water. Single *cold cream* contains 5% extract of binahong leaves or pegagan leaves. *Cold cream* combination contains 2.5% binahong leaf extract and 2.5% pegagan leaf extract. *Cold cream* was tested for physical quality in the form of organoleptic, viscosity, pH, dispersion and adhesion, and the stability test of the *freeze thaw* method. Antibacterial activity test was carried out on rabbit skin induced by *Staphylococcus aureus* and observed erythema diameter, edema thickness and presence of pus. Observational data were tested statistikally using *Komogorov-Smirnov*, followed by Two-way ANOVA test or *Kruskal-Wallis* test and *Mann-Whitney* test.

The results of the observation showed that the second combination of extracts can be formulated in the form of *cold cream*. The physical quality of combination *cold cream* organoleptically, viscosity, pH, dispersion and adhesion are said to be good. The stability test of the *freeze thaw* method showed a stable *cold cream* combination in 5 test cycles. The healing power of combination *cold cream* on rabbit skin is the best compared to a single *cold cream*.

Keywords : Binahong Leaves (*Anredera cordifolia* (Ten.) Steenis), Pegagan Leaves (*Centella asiatica* (L.) Urban), *Cold cream*, Antibacterial, *Staphylococcus aureus*