

Abstrak

FORMULASI DAN EVALUASI *LOTION* MINYAK ATSIRI BUNGA CENGKEH (*Syzygium aromaticum L.*) MENGGUNAKAN EMULGATOR *TRIETHANOLAMINE* DAN ASAM STEARAT

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Latar Belakang : Minyak atsiri bunga cengkeh sangat potensial untuk dikembangkan menjadi suatu sediaan farmasi, karena kandungan eugenol nya yang cukup tinggi yaitu 80-90%. *Lotion* memiliki daya tarik estetika yang besar karena sifatnya yang tidak berminyak, tidak lengket, mudah dibersihkan, dan mudah menyebar rata. Sifat fisik dan stabilitas *lotion* sangat dipengaruhi oleh emulgator. Sehingga perlu dilakukan penelitian untuk melihat pengaruh kombinasi trietanolamin (TEA) dan asam stearat sebagai emulgator terhadap sifat fisik sediaan *lotion* minyak bunga cengkeh (*Syzygium aromaticum L.*).

Metodologi : Sediaan *lotion* dibuat dalam 3 formula dengan perbandingan konsentrasi asam stearat dan trietanolamin yang berbeda (6%:2%, 5%:3%, dan 4%:4%), selanjutnya sediaan diuji sifat fisik (organoleptis, homogenitas, daya sebar, daya lekat, pH, viskositas), uji stabilitas fisik metode *freeze thaw*. Uji organoleptis dan homogenitas dianalisis secara deskriptif. Uji viskositas, daya sebar, daya lekat, pH dianalisis secara statistik menggunakan *Oneway ANOVA*.

Hasil Penelitian : Penggunaan kombinasi emulgator asam stearat dan trietanolamin mempengaruhi sifat fisik sediaan (organoleptis, homogenitas, daya sebar, daya lekat, pH, viskositas). Semakin tinggi konsentrasi asam stearat semakin meningkat viskositasnya. Semakin tinggi konsentrasi trietanolamin maka semakin tinggi nilai pH yang dihasilkan. Sediaan yang dihasilkan memiliki viskositas (2700-36000 cP), pH (5,9-7,2), daya sebar (7,05-10,2), daya lekat (1,07-52,12). Dari 3 formula, hanya formula 1 yang stabil selama penyimpanan dalam suhu ruang dan *stress condition*.

Kesimpulan : Konsentrasi asam stearat berbanding lurus dengan viskositas dan daya lekat, namun berbanding terbalik dengan daya sebar dan nilai pH. Sebaliknya, konsentrasi trietanolamin berbanding lurus terhadap pH dan daya sebar, namun berbanding terbalik terhadap viskositas dan daya lekat. Konsentrasi kombinasi asam stearat dan trietanolamin (TEA) yang menghasilkan formula *lotion* minyak bunga cengkeh paling baik yaitu dengan konsentrasi asam stearat 6%: trietanolamin 2%.

Kata Kunci : *Lotion*, *Clove Bud Oil*, Asam atearat, Trietanolamin (TEA).

Abstract

FORMULATION AND EVALUATION OF CLOVE BUD OIL LOTION (*Syzygium aromaticum L.*) USING STEARIC ACID AND TRIETHANOLAMINE EMULSIFIERS

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Background : Clove bud oil has the potential to be developed into a pharmaceutical preparation, because its eugenol content is quite high, namely 80-90%. Lotion has a great aesthetic attraction because of its non-oily, non sticky, easy cleansing and easy to spread flat. The physical properties and stability of the lotion are greatly influenced by the emulgator. So it is necessary to do research to see the effect of the combination of triethanolamine (TEA) and stearic acid as an emulgator on the physical properties of the clove flower oil (*Syzygium aromaticum L.*) lotion preparation.

Methods : The lotion is made in 3 formulas with different concentrations of stearic acid and triethanolamine (6%: 2%, 5%: 3%, and 4%: 4%), then the preparation is tested for its physical properties (organoleptic, homogeneity, dispersibility, power adhesion, pH, viscosity), physical stability test by freeze thaw method. Organoleptic test and homogeneity were analyzed descriptively. The viscosity, spreadability, adhesion, pH tests were statistically analyzed using Oneway ANOVA.

Results : The use of a combination of stearic acid and triethanolamine emulgators affects the physical properties of the preparation (organoleptic, homogeneity, dispersibility, adhesion, pH, viscosity). The higher the concentration of stearic acid, the higher the viscosity. The higher the triethanolamine concentration, the higher the resulting pH value. The resulting preparation has a viscosity (2700-36000 cP), Ph (5.9-7.2), spreadability (7.05-10.2), adhesion (1.07-52.12). Of the 3 formulas, only formula 1 is stable during storage at room temperature and stress conditions.

Conclusions : The concentration of stearic acid is directly proportional to viscosity and adhesion, but is inversely proportional to the dispersion power and pH value. On the other hand, triethanolamine concentration is directly proportional to pH and dispersive power, but is inversely related to viscosity and adhesion. The combination concentration of stearic acid and triethanolamine (TEA) that produces the best clove bud oil lotion formula is the concentration of 6% stearic acid: 2% triethanolamine.

Keyword : Lotion, Clove Bud Oil, stearic acid and triethanolamine (TEA)