

INTISARI

DEWI SRI UTAMI WULANDARI, 2025, PENGARUH ASAM STEARAT DAN TEA TERHADAP MUTU FISIK SEDIAAN KRIM CERAMIDE KARYA TULIS ILMIAH PROGRAM STUDI D-III FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh apt. Siti Aisiyah, S.Farm., M.Sc.

Ceramide merupakan bahan aktif yang banyak digunakan dalam sediaan topikal karena perannya dalam memperkuat lapisan pelindung kulit sehingga menyebabkan kulit menjadi lebih lembab dan mencegah iritasi pada kulit yang disebabkan paparan sinar matahari. Ceramide akan lebih efektif dikembangkan dalam sediaan krim karena lebih mudah dalam pengaplikasian pada kulit. Penelitian ini bertujuan untuk mengevaluasi pengaruh variasi konsentrasi asam stearat dan triethanolamine (TEA) terhadap mutu fisik dan kestabilan krim ceramide, serta menentukan formula paling baik.

Ceramide diformulasikan dalam sediaan krim dengan tiga formula dengan variasi emulgator asam stearat dan trietanolamin (TEA), masing-masing sebesar 15%, 16%, dan 17%, serta 2%, 3%, dan 4%. Sediaan krim perlu dilakukan pengujian yang meliputi evaluasi organoleptik, homogenitas, pH, viskositas, daya sebar, daya lekat, daya proteksi, tipe krim, dan uji stabilitas. Hasil uji mutu fisik yang diperoleh kemudian dibandingkan dengan standar atau literatur yang relevan untuk mengetahui apakah formula yang dibuat memenuhi kriteria sediaan krim yang baik sesuai dengan referensi yang ada. Data yang dihasilkan akan dianalisis menggunakan SPSS (*Statistical Package for the Social Sciences*) dengan metode *One-way ANOVA (Analysis of Variance)*.

Hasil menunjukkan bahwa variasi konsentrasi asam stearat dan triethanolamine (TEA) memberikan pengaruh terhadap perubahan pH, viskositas, daya lekat dan stabilitas sediaan krim ceramide. Peningkatan konsentrasi TEA dan asam stearat menyebabkan peningkatan nilai pH, viskositas, dan daya lekat sediaan krim serta menurunnya nilai daya sebar. Sedangkan, penurunan konsentrasi TEA dan asam stearat menyebabkan penurunan nilai pH, viskositas, dan daya lekat serta menurunnya daya sebar. Disimpulkan bahwa variasi konsentrasi asam stearat dan TEA mempengaruhi karakteristik fisik krim ceramide. Formula 2 merupakan formula terbaik berdasarkan kestabilan parameter uji homogenitas, uji daya lekat, dan tipe krim.

Kata Kunci: Ceramide, krim, asam stearat, TEA, mutu fisik, stabilitas.

ABSTRACT

DEWI SRI UTAMI WULANDARI, 2025, "THE EFFECT OF STEARIC ACID AND TEA ON THE PHYSICAL QUALITY OF CERAMIDE CREAM PREPARATION" SCIENTIFIC WRITING OF D-III PHARMACY PROGRAM, FACULTY OF PHARMACY, UNIVERSITAS SETIA BUDI, SURAKARTA. Supervised by Apt. Siti Aisiyah, S.Farm., M.Sc.

Ceramide is an active ingredient widely used in topical preparations due to its role in strengthening the skin barrier, which helps keep the skin moisturized and prevents irritation caused by sun exposure. Ceramide is more effectively formulated in cream preparations as it is easier to apply to the skin. This study aims to evaluate the effect of varying concentrations of stearic acid and triethanolamine (TEA) on the physical properties and stability of ceramide cream, and to determine the most optimal formula.

Ceramide was formulated into a cream dosage form with three different formulas using variations of emulsifiers stearic acid and triethanolamine (TEA), at concentrations of 15%, 16%, and 17%, and 2%, 3%, and 4%, respectively. The cream formulations were evaluated through various tests, including organoleptic evaluation, homogeneity, pH, viscosity, spreadability, adhesion, protection ability, cream type, and stability testing. The results of the physical quality tests were then compared with relevant standards or literature to determine whether the formulations met the criteria of a good quality cream preparation according to established references. The data obtained were analyzed using SPSS (Statistical Package for the Social Sciences) with the One-way ANOVA (Analysis of Variance) method.

The results showed that variations in stearic acid and TEA concentrations affected the pH, viscosity, adhesion, and stability of the ceramide cream. Increasing the concentrations of stearic acid and TEA led to higher pH, viscosity, and adhesion, but reduced the spreadability. Conversely, decreasing these concentrations resulted in lower pH, viscosity, and adhesion, as well as lower spreadability. It was concluded that variations in stearic acid and TEA concentrations significantly influenced the physical characteristics of ceramide cream. Formula 2 was identified as the optimal formula based on stable results in homogeneity, adhesion, and cream type evaluations.

Keywords: Ceramide, cream, stearic acid, TEA, physical quality, stability.