

ABSTRAK

DHISTI TRIANA SARI, 2024, FORMULASI DAN UJI MUTU FISIK SERUM *NIACINAMIDE* DENGAN VARIASI XANTHAN GUM SEBAGAI *GELLING AGENT*, PROPOSAL KARYA TULIS ILMIAH, PROGRAM STUDI D-III FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI. Dibimbing oleh apt. Dewi Ekowati. S.Si., M.Sc.

Kulit cerah dan bersinar telah menjadi dambaan banyak orang. *Niacinamide* adalah salah satu bahan aktif yang sudah terbukti efektif dalam mencerahkan kulit. *Niacinamide* diformulasikan menjadi sediaan serum karena memiliki tekstur ringan dan kemampuan penetrasi yang baik, sehingga lebih efektif mengantarkan bahan aktif. Penelitian ini bertujuan untuk mengetahui pengaruh variasi konsentrasi xanthan gum sebagai *gelling agent* terhadap mutu fisik dan stabilitasnya, untuk mengetahui formula *niacinamide* yang memiliki mutu fisik dan stabilitas yang paling baik.

Formulasi serum *niacinamide* dibuat dalam tiga variasi konsentrasi xanthan gum 0,5%, 1%, dan 1,5%. Serum yang telah diformulasikan akan dilakukan pengujian mutu fisik dan stabilitasnya yang meliputi uji organoleptis, uji homogenitas, uji pH, uji daya lekat, uji daya sebar, uji viskositas dan uji stabilitasnya. Data hasil pengujian dibandingkan dengan standar yang telah ditetapkan dalam pustaka serta dianalisis secara statistik menggunakan metode *Analysis of Variance* (ANOVA) *one-way* dengan tingkat kepercayaan 95%.

Hasil penelitian menunjukkan bahwa *niacinamide* dapat diformulasikan menjadi sediaan serum dengan kualitas fisik dan stabilitas yang baik. Penggunaan variasi konsentrasi xanthan gum yang semakin tinggi dapat mempengaruhi sifat mutu fisik dan stabilitas sediaan serum. Formula serum *niacinamide* yang memiliki kualitas dan stabilitas fisik terbaik adalah formula II dengan konsentrasi *gelling agent* xanthan gum 1%.

Kata kunci : *Niacinamide*, Xanthan gum, serum, uji mutu fisik, stabilitas.

ABSTRACT

DHISTI TRIANA SARI, 2024, FORMULATION AND PHYSICAL QUALITY TEST OF *NIACINAMIDE* SERUM WITH VARIATIONS OF XANTHAN GUM AS A *GELLING AGENT*, SCIENTIFIC PAPERS, THREE YEAR DIPLOMA IN PHARMACY, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA. Supervised by apt. Dewi Ekowati. S.Si., M.Sc

Bright and glowing skin had become the dream of many people. *Niacinamide* was one of the active ingredients that had been proven effective in brightening the skin. *Niacinamide* was formulated into a serum preparation because it had a light texture and good penetration ability, making it more effective in delivering the active ingredient. This study aimed to determine the effect of varying concentrations of xanthan gum as a gelling agent on the physical quality and stability of the serum, and to identify the *niacinamide* formula with the best physical quality and stability.

The *niacinamide* serum formulation was prepared with three variations of xanthan gum concentrations: 0.5%, 1%, and 1.5%. The formulated serums were tested for their physical quality and stability, including organoleptic tests, homogeneity tests, pH tests, adhesion tests, spreadability tests, viscosity tests, and stability tests. The test results were compared to established standards from the literature and were statistically analyzed using *one-way Analysis of Variance* (ANOVA) at a 95% confidence level.

The results of the study showed that *niacinamide* could be formulated into a serum preparation with good physical quality and stability. The use of higher concentrations of xanthan gum affected the physical properties and stability of the serum formulation. The *niacinamide* serum formula that had the best physical quality and stability was Formula II, which contained 1% xanthan gum as the *gelling agent*.

Key words: *Niacinamide*, xanthan gum, serum, physical quality test, stability.