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SIFAT FISIK, STABILITAS DAN UJI IRITASI MINYAK BIJI LABU KUNING (*Cucurbita moschata D seed oil D seed oil*) SEBAGAI PROTOTYPE SERUM ANTI AGING

ABSTRAK

Latar Belakang: Minyak biji labu kuning (*Cucurbita moschata D seed oil*) mengandung senyawa seperti asam linoleat, protein, Zn (seng) dan antioksidan (karotenoid, tokoferol). Senyawa ini berperan dalam melindungi kulit dari proses penuaan melalui berbagai mekanisme. Kandungan senyawa minyak biji labu kuning ini dapat memperlambat proses penuaan, melindungi sel dari oksidasi radikal bebas, bereaksi dengan lipid yang dihasilkan dalam reaksi berantai peroksidasi lipid, tanpa mengganggu fungsi molekul radikal bebas. Tujuan penelitian ini untuk mengevaluasi sifat fisik dan stabilitas serum minyak biji labu kuning (*Cucurbita moschata D seed oil*) kombinasi Niacinamide.

Metode: Jenis penelitian yang digunakan adalah penelitian eksperimental laboratorium dengan memformulasikan minyak biji labu kuning (*Cucurbita moschata D seed oil*) sebagai prototipe serum *anti aging*. Formula 1 konsentrasi minyak biji labu kuning 1%, formula 2 konsentrasi minyak biji labu kuning 3%, di evaluasi sifat fisik dan respon iritatif pada kulit. Uji sifat fisik ditinjau dari organoleptis, homogenitas, pH, daya sebar, viskositas serta *cycling test* selama 6 siklus. Data dianalisis menggunakan SPSS versi 25.

Hasil: Pada uji organoleptis, homogenitas, pH, daya sebar, viskositas dan uji iritasi selama 14 hari menunjukkan bahwa sediaan tidak iritatif. Pada sediaan serum minyak biji labu kuning (*Cucurbita moschata D seed oil*) tidak terdapat perubahan yang signifikan pada semua formulasi. Uji sifat fisik serum memiliki bentuk kental, berwarna putih, homogen, dan beraroma khas aloe vera. pH serum memiliki rentang 4,5-8,0, daya sebar memiliki rentang 5-7 cm, viskositas memiliki rentang 800-3000 cPs. Hasil pengamatan uji iritasi menggunakan kelinci selama 14 hari, tidak ditemukan adanya eritema dan edema pada kulit kelinci.

Kesimpulan: Serum minyak biji labu kuning (*Cucurbita moschata D seed oil*) tidak memiliki respon iritasi dan semua formula memiliki sifat fisik yang optimal.

Kata kunci: minyak biji labu kuning, serum, sifat fisik, iritasi

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PHYSICAL PROPERTIES, STABILITY AND IRRITATION TESTS OF YELLOW PUMPKIN SEED OIL (*Cucurbita moschata* D seed oil D seed oil) AS A PROTOTYPE OF ANTI-AGING SERUM

ABSTRACT

Background: Pumpkin seed oil (*Cucurbita moschata* D seed oil D seed oil) contains compounds such as linoleic acid, protein, Zn (zinc) and antioxidants (carotenoids, tocopherols). These compounds play a role in protecting the skin from the aging process through various mechanisms. The compounds contained in pumpkin seed oil can slow down the aging process, protect cells from free radical oxidation, react with lipids produced in lipid peroxidation chain reactions, without interfering with the function of free radical molecules. The purpose of this study was to evaluate the physical properties and stability of pumpkin seed oil (*Cucurbita moschata* D seed oil D seed oil) serum combined with Niacinamide.

Method: The type of research used was laboratory experimental research by formulating pumpkin seed oil (*Cucurbita moschata* D seed oil D seed oil) as a prototype anti-aging serum. Formula 1 with a concentration of 1% pumpkin seed oil, formula 2 with a concentration of 3% pumpkin seed oil, evaluated the physical properties and irritative response of the skin. Physical properties test in terms of organoleptic, homogeneity, pH, spreadability, viscosity and cycling test for 6 cycles. Data were analyzed using SPSS version 25.

Results: In the organoleptic test, homogeneity, pH, spreadability, viscosity and irritation test for 14 days showed that the preparation was not irritating. In the preparation of pumpkin seed oil serum (*Cucurbita moschata* D seed oil D seed oil) there was no significant change in all formulations. The physical properties test of the serum has a thick, white, homogeneous form and has a distinctive aloe vera aroma. Serum pH has a range of 4.5-8.0, spreadability has a range of 5-7 cm, viscosity has a range of 800-3000 cPs. The results of observations of irritation tests using rabbits for 14 days, found no erythema and edema on the rabbit's skin.

Conclusion: Pumpkin seed oil serum (*Cucurbita moschata* D seed oil D seed oil) has no irritation response and all formulas have optimal physical properties.

Keywords: pumpkin seed oil, serum, physical properties, irritation