ABSTRAK

Latar Belakang: Indonesia merupakan negara tropis dengan paparan sinar matahari yang tinggi sehingga memungkinkan kulit untuk terus terpapar sinar matahari. Tanaman kaktus centong mengandung senyawa fenolik khususnya golongan flavonoid mempunyai potensi sebagai tabir surya karena adanya gugus kromofor yang mampu menyerap sinar UV pada kisaran panjang gelombang UV-A maupun UV-B karena adanya aromatik yang terkonjugasi. Namun, belum ada penelitian yang memformulasikan ekstrak kaktus centong menjadi sediaan tabir surya.

Tujuan: Mengetahui efektivitas tabir surya dari ekstrak dan krim ekstrak etanol 70% kaktus centong serta mengetahui pengaruh antara variasi konsentrasi ekstrak etanol 70% kaktus centong terhadap stabilitas fisik sediaan krim.

Metode: Penelitian eksperimental laboratorium, diawali pembuatan dan karakterisasi simplisia, pembuatan ekstrak dengan metode maserasi dengan pelarut etanol 70%. Variasi konsentrasi ekstrak etanol 70% kaktus centong diformulasi menjadi sediaan krim. Sediaan krim dilakukan penentuan nilai tabir surya dilanjutkan uji karakteristik fisik, stabilitas fisik.

Hasil: Ekstrak etanol 70% kaktus centong memiliki efektivitas tabir surya pada konsentrasi 10% (25,629), 20% (31,571), 30% (35,281). Sediaan krim ekstrak etanol 70% kaktus centong memiliki efektivitas tabir surya pada konsentrasi 10% (23,555), 20% (29,569), dan 30% (33,834). Variasi konsentrasi ekstrak berpengaruh terhadap nilai tabir surya, selain itu berpenagruh terhadap nilai pH, daya lekat, dan daya sebar sediaan krim.

Kesimpulan: Ekstrak dan krim ekstrak kaktus centong memiliki efektivitas tabir surya. Variasi konsentrasi ekstrak berpengaruh terhadap nilai tabir surya, pH, daya lekat, dan daya sebar dengan nilai $p<0,05$. Terdapat perbedaan stabilitas fisik (pH, daya lekat, dan daya sebar) berdasarkan metode *cycling test* pada silus ke-0 hingga siklus ke-6.

Kata Kunci: *Ekstrak Kaktus Centong, Flavonoid, Tabir Surya, Krim*

ABSTRACT

Background: Indonesia is a tropical country with high exposure to sunlight, which allows the skin to continue to be exposed to sunlight. The ladle cactus plant contains phenolic compounds, especially the flavonoid group, which has potential as a sunscreen because of the chromophore group which is able to absorb UV light in the UV-A and UV-B wavelength range due to the presence of conjugated aromatics. However, there has been no research that has formulated ladle cactus extract into a sunscreen preparation.

Objective: To determine the sunscreen effectiveness of ladle cactus ethanol 70% extract and cream and to determine the effect of varying concentrations of ladle cactus ethanol 70% extract on the physical stability of cream preparations.

Method: Laboratory experimental research, starting with the manufacture and characterization of simplicia, making extracts using the maceration method with 70% ethanol solvent. Varying concentrations of *Opuntia cochenillifera* ethanol 70% extract were formulated into cream preparations. The cream preparation is carried out to determine the value of sunscreen followed by testing of physical characteristics and physical stability.

Results: *Opuntia cochenillifera* ethanol 70% extract has sunscreen effectiveness at concentrations of 10% (25.629), 20% (31.571), 30% (35.281). The ethanol 70% extract cream preparation of ladle cactus has sunscreen effectiveness at concentrations of 10% (23.555), 20% (29.569), and 30% (33.834). Variations in extract concentration affect the sunscreen value, in addition to the pH value, stickiness and spreadability of the cream preparation.

Conclusion: *Opuntia cochenillifera* extract and cream have sunscreen effectiveness. Variations in extract concentration affect the sunscreen value, pH, adhesive power and spreadability with a p value <0.05. There are differences in physical stability (pH, adhesion and spreadability) based on the cycling test method in the 0^{th} cycle to the 6^{th} cycle.

Keywords: *Opuntia cochenillifera Extract, Flavonoids, Sunscreen, Cream*