

PENGARUH KONSENTRASI EKSTRAK DAUN KERSEN TERHADAP SIFAT FISIK GEL DAN AKTIVITAS TABIR SURYA DENGAN SPEKTROFOTOMETRI UV VIS

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INTISARI

Latar belakang: Paparan sinar UV yang berlebihan dapat diatasi dengan tabir surya. Tabir surya bentuk gel dipilih karena memberikan rasa yang dingin saat digunakan pada kulit. Daun kersen memiliki aktivitas sebagai tabir surya karena memiliki senyawa flavonoid dan fenolik. Adanya variasi konsentrasi ekstrak dapat mempengaruhi aktivitas tabir surya dan sifat fisik gel.

Tujuan penelitian: Mengetahui pengaruh konsentrasi ekstrak terhadap nilai SPF, %Te, %Tp dan terhadap sifat fisik gel. Selain itu juga, untuk mengetahui perbedaan nilai SPF, %Te dan %Tp antara ekstrak dengan sediaan gel ekstrak.

Metode penelitian: Daun kersen dimaserasi menggunakan etanol 70%. Formulasi gel dilakukan dengan 3 variasi konsentrasi ekstrak 0,5% ; 0,75% dan 1%. Pengukuran aktivitas tabir surya menggunakan spektrofotometri UV-Vis. Sifat fisik gel diamati terhadap respon pH, organoleptik, homogenitas, viskositas, daya lekat dan daya sebar.

Hasil penelitian: Nilai SPF ekstrak tertinggi pada konsentrasi 1% sebesar 37,86. Nilai %Te dan %Tp terendah pada konsentrasi 1% sebesar 0,025% dan 0,1%. Hasil nilai SPF sediaan gel tertinggi pada konsentrasi 1% sebesar 25,40. Nilai %Te dan %Tp sediaan gel terendah pada konsentrasi 1% sebesar 0,23% dan 1,39%. Hasil uji sifat fisik pada organoleptik gel, ketiga formula berwarna kuning jernih. Pada uji homogenitas, semua sediaan homogen. Hasil uji pH, viskositas, daya sebar dan daya lekat sediaan gel, semua formula memenuhi syarat uji sifat fisik.

Kesimpulan: Variasi konsentrasi ekstrak mempengaruhi aktivitas tabir surya pada ekstrak, sediaan gel, dan sifat fisik. Terdapat perbedaan nilai SPF, %Te dan %Tp antara ekstrak dengan sediaan gel.

Kata kunci: Daun kersen, konsentrasi ekstrak, SPF, %Te, %Tp.

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EFFECT OF *Muntingia calabura* L. EXTRACT CONCENTRATION ON GEL PHYSICAL PROPERTIES AND SUNSCREEN ACTIVITY BY UV VIS SPECTROPHOTOMETRY

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ABSTRACT

Background: Excessive UV exposure can be treated with sunscreen. Gel form sunscreen was chosen because it gives a cool feeling when used on the skin. *Muntingia calabura* L. have activity as a sunscreen because they contain flavonoids and phenolic compounds. The existence of variations in the concentration of the extract can affect the activity of sunscreen and the physical properties of the gel.

Objective: Knowing the effect of extract concentration on the value of SPF, %Te, %Tp and on the physical properties of the gel. In addition, to determine differences in SPF, %Te and %Tp values between extracts and extract gel preparations.

Method: *Muntingia calabura* L. were extracted by maceration using 70% ethanol. Gel formulation was carried out with 3 variations of extract concentration 0.5% 0.75% and 1%. Sunscreen activity was measured using spectrophotometry UV-Vis. The physical properties of the gel were observed for pH, organoleptic, homogeneity, viscosity, adhesion and spreadability.

Result: The highest extract SPF value at a concentration of 1% was 37.86. The lowest %Te and %Tp values were at 1% concentration of 0.025% and 0.1%. The result of the highest gel preparation SPF value at a concentration of 1% was 25.40. The lowest %Te and %Tp values of the gel preparations at 1% concentration were 0.23% and 1.39%. The results of the physical properties test on the organoleptic gel, the third formula was clear yellow in color. In the homogeneity test, all preparations were homogeneous. Test results for pH, viscosity, dispersion and adhesion of gel preparations, all formulas met the requirements of the physical properties test.

Conclusion: Variations in extract concentrations affect the activity of sunscreens in extracts, gel preparations, and physical properties. There are differences in the value of SPF, %Te and %Tp between extracts and gel preparations.

Keyword: *Muntingia calabura* L., SPF, %Te, %Tp, extract concentration.

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