

INTISARI

SAPUTRA, R.N., 2021 PENGARUH VARIASI KONSENTRASI HPMC TERHADAP MUTU FISIK SEDIAAN EMULGEL EKSTRAK ETANOL DAUN CEMPEDAK (*Artocarpus integer* (Thunb.) Merr.) SEBAGAI TABIR SURYA SECARA *IN VITRO*, PROPOSAL SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. Drs. Supriyadi, M.Si., dan apt. Nur Aini Dewi Purnamasari, M.Sc.

Radikal bebas atau paparan sinar matahari menyebabkan pigmentasi, eritema, dan penyakit *degenerative*. Tabir surya dapat mencegah paparan sinar matahari. Senyawa flavonoid pada daun cempedak mempunyai aktifitas tabir surya alami. Tujuan penelitian ini untuk mengetahui pengaruh variasi HPMC pada sediaan emulgel ekstrak etanol daun cempedak terhadap mutu fisik dan stabilitas meliputi viskositas dan daya sebar, serta aktivitas tabir surya secara *in vitro*.

Ekstrak diperoleh dari proses maserasi menggunakan etanol 96%. Emulgel diformulasikan menggunakan ekstrak 4% dan variasi *gelling agent* HPMC 3,5%; 4,5%; dan 5,5%. Parameter uji emulgel meliputi uji organoleptis, homogenitas, viskositas, pH, daya sebar, daya lekat, uji stabilitas *cycling test*, dan uji aktivitas tabir surya emulgel dilakukan secara *in vitro* dengan mengukur nilai *Sun Protection Factor* (SPF) menggunakan Spektrofotometri UV. Analisis hasil menggunakan SPSS dengan pengujian *One Way ANOVA* dan uji *Post Hoc Dunnett T3*.

Hasil penelitian menunjukkan formulasi emulgel ekstrak etanol daun cempedak memiliki mutu fisik dan stabilitas yang baik serta beraktivitas tabir surya. Formula I dengan konsentrasi ekstrak 4% HPMC 3,5% menjadi formula terbaik dengan nilai SPF 13,9 (proteksi maksimal), nilai SPF formula II 12,796 dan formula III 11,817 dengan kategori proteksi maksimal.

Kata kunci : *Artocarpus integer* (Thunb.) Merr, Emulgel, SPF, Tabir surya.

ABSTRACT

SAPUTRA, R, N., 2021 EFFECT OF HPMC CONCENTRATION VARIATIONS ON THE PHYSICAL QUALITY OF EMULGEL PREPARATIONS OF EMULGEL EXTRACT OF CEMPEDAK LEAF (*Artocarpus integer* (Thunb.) Merr.) AS A SOLAR VEIL IN VITRO, PROPOSAL OF THE SCRIPTURE, FACULTY OF SCRIPTURE UNIVERSITY, SACULTY SETIA BUDI, SURAKARTA. Supervised by Dr. Drs. Supriyadi, M.Sc., and apt. Nur Aini Dewi Purnamasari, M.Sc.

Free radicals or sun exposure cause pigmentation, erythema, and degenerative diseases. Sunscreen can prevent sun exposure. The flavonoid compounds in cempedak leaves have natural sunscreen activity. The purpose of this study was to determine the effect of HPMC variations on emulgel preparations of cempedak leaf ethanol extract on physical quality and stability including viscosity and dispersion, as well as in vitro sunscreen activity.

The extract was obtained from the maceration process using 96% ethanol. Emulgel is formulated using 4% extract and 3.5% *gelling agent* HPMC variation; 4.5%; and 5.5%. Emulgel test parameters include organoleptic test, homogeneity, viscosity, pH, dispersion, adhesion, stability test, cycling test, and sunscreen activity test. Emulgel was carried out in vitro by measuring the value of *Sun Protection Factor* (SPF) using UV Spectrophotometry. Analysis of the results using SPSS with ANOVA test and *Dunnet T3 Post Hoc test*.

The results showed that the emulgel formulation of cempedak leaf ethanol extract had good physical quality and stability as well as sunscreen activity. Formula I with extract concentration of 4% HPMC 3.5% became the best formula with SPF value of 13.9 (maximum protection), SPF value of formula II 12.796 and formula III 11.817 with maximum protection category.

Keywords: *Artocarpus integer* (Thunb.) Merr, Emulgel, SPF, *Sunscreen*.