

ABSTRAK

EVALUASI FORMULASI SEDIAAN MIKROENKAPSULASI EKSTRAK ETANOL DAUN TEMU MANGGA (*Curcuma mangga Val.*)

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Latar belakang: Keanekaragaman hayati Indonesia mencakup temu mangga (*Curcuma mangga* Val.) yang ekstrak etanol daunnya berpotensi farmakologis namun menghadapi tantangan stabilitas dalam bentuk tradisional. **Tujuan:** Penelitian eksperimental laboratorium berpendekatan kuantitatif ini bertujuan memformulasikan sediaan mikroenkapsulasi. **Metode:** Sediaan dengan metode gelasi ionik (konsentrasi 0,25%, 0,5%, 0,75%) dan mengevaluasi karakteristik fisik meliputi stabilitas, kadar air, dan daya lekat. Populasi daun temu mangga dari Medan (1.100 g simplisia, rendemen 12,2%) diambil sampel purposif menjadi empat formulasi memenuhi kriteria inklusi (bentuk bulat/oval, permukaan halus). Instrumen mencakup rotary evaporator, syringe 22G, oven pengering, dengan teknik analisis skrining fitokimia, cycling test, perhitungan kadar air, dan uji daya lekat mukosa lambung tikus. **Hasil:** Hasil menampilkan rendemen 12,2%, fitokimia positif (alkaloid, flavonoid, saponin, terpenoid, steroid, fenol), stabilitas organoleptik enam siklus, kadar air 0,75-1,34%, dan daya lekat hingga 120 menit. **Kesimpulan:** Simpulan menyatakan mikroenkapsulasi natrium alginat-kitosan menghasilkan sediaan herbal stabil ber-kadar air rendah dan mukoadhesi baik, potensial untuk pengembangan farmasi modern.

Kata Kunci: *Daya Lekat, Gelasi Ionik, Mikroenkapsulasi, Kadar Air, Temu Mangga*

ABSTRACT

EVALUATION OF MICROENCAPSULATION FORMULATION OF ETHANOL EXTRACT OF MANGGO TEMPERATURE (*Curcuma mangga* Val.) LEAVES

By

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Background: Indonesian biodiversity includes mango ginger (*Curcuma mangga* Val.), whose ethanol leaf extract has pharmacological potential but faces stability challenges in its traditional form. **Objective:** This quantitative laboratory experimental study aimed to formulate a microencapsulated preparation. **Methods:** Preparations were prepared using the ionic gelation method (concentrations of 0.25%, 0.5%, and 0.75%) and evaluated for physical characteristics including stability, water content, and adhesiveness. A population of mango ginger leaves from Medan (1,100 g of the drug, yield 12.2%) was purposively sampled into four formulations that met the inclusion criteria (round/oval shape, smooth surface). The instruments included a rotary evaporator, a 22G syringe, and a drying oven, along with phytochemical screening analysis, cycling tests, water content calculations, and a rat gastric mucosal adhesion test. **Results:** The results showed a yield of 12.2%, positive phytochemicals (alkaloids, flavonoids, saponins, terpenoids, steroids, and phenols), organoleptic stability for six cycles, a water content of 0.75-1.34%, and adhesiveness for up to 120 minutes. **Conclusion:** The conclusion is that sodium alginate-chitosan microencapsulation produces a stable herbal preparation with low water content and good mucoadhesion, potentially suitable for modern pharmaceutical development.

Keywords: Adhesiveness, Ionic Gelation, Microencapsulation, Water Content, Mango Ginger