FORMULASI SEDIAAN *SPRAY* EMULSI EKSTRAK ETANOL DAUN KETEPENG CINA (*Cassia alata* L.) SEBAGAI ANTIJAMUR

Magdalena Arista Dua Helmi
Program Studi Sarjana Farmasi
Fakultas Ilmu Kesehatan Institut Kesehatan Mitra Bunda

Dosen Pembimbing
Rastria Meilanda
Sri Budiasih

ABSTRAK

Infeksi jamur kulit merupakan salah satu masalah kesehatan yang banyak ditemukan di negara beriklim tropis, termasuk Indonesia. Daun Ketepeng Cina (*Cassia alata* L.) mengandung metabolit sekunder yang berpotensi sebagai antijamur. Penelitian ini bertujuan memformulasikan ekstrak etanol daun Ketepeng Cina dalam sediaan *spray* emulsi serta mengevaluasi karakteristik fisik dan stabilitasnya. Ekstrak diperoleh melalui maserasi menggunakan etanol 96%. Sediaan dibuat dengan variasi konsentrasi ekstrak 0, 0,5, 1, dan 2% (F0, F1, F2, dan F3). Evaluasi meliputi organoleptis, homogenitas, pH, viskositas, pola semprot, waktu kering, tipe emulsi, iritasi, *cycling test*, dan penyimpanan suhu ruang. Data dianalisis menggunakan Shapiro–Wilk, uji homogenitas, One-Way ANOVA atau Welch ANOVA, serta post-hoc Tukey HSD atau Games-Howell pada taraf kepercayaan 95%. Hasil menunjukkan seluruh formula stabil pada organoleptis, homogenitas, viskositas, tipe emulsi, dan iritasi. Pada *cycling test*, pH dan waktu kering berbeda antara beberapa formula, terutama F0 dan F3 ($p<0,05$), sedangkan pola semprot berbeda antara F0 dan F1 ($p<0,05$). F2 dengan konsentrasi ekstrak 1% ditetapkan sebagai formula terbaik. Pada suhu ruang, perbedaan pH ditemukan pada beberapa pasangan formula pada hari ke-7, 14, 21, dan 28, sedangkan pola semprot dan waktu kering berbeda pada beberapa formula dan waktu pengamatan ($p<0,05$). Dengan demikian, ekstrak etanol daun Ketepeng Cina dapat diformulasikan sebagai *spray* emulsi dengan karakteristik fisik dan stabilitas yang baik serta berpotensi dikembangkan sebagai sediaan antijamur topikal

Kata kunci: *Cassia alata* L., ekstrak etanol, *spray* emulsi, antijamur, stabilitas.

FORMULATION OF SPRAY EMULSION OF (*Cassia alata L.*) LEAF ETHANOLIC EXTRACT AS AN ANTIFUNGAL

Magdalena Arista Dua Helmi
Bachelor of Pharmacy Department
Faculty of Health Sciences Institut Kesehatan Mitra Bunda

Academic Supervisors
Rastria Meilanda
Sri Budiasih

ABSTRACT

Skin fungal infections are common health problems in tropical countries, including Indonesia. Ketepeng Cina leaves (Cassia alata L.) contain secondary metabolites with potential antifungal activity. This study aimed to formulate an ethanol extract of Ketepeng Cina leaves into a spray emulsion and evaluate its physical characteristics and stability. The extract was obtained by maceration using 96% ethanol. The spray emulsion was prepared with extract concentrations of 0, 0.5, 1, and 2% (F0, F1, F2, and F3). The preparations were evaluated for organoleptic properties, homogeneity, pH, viscosity, spray pattern, drying time, emulsion type, irritation, cycling test, and room-temperature storage. Data were analysed using the Shapiro–Wilk test, homogeneity test, One-Way ANOVA or Welch ANOVA, followed by Tukey HSD or Games-Howell post hoc tests at a 95% confidence level. The results showed that all formulations remained stable in terms of organoleptic properties, homogeneity, viscosity, emulsion type, and irritation. In the cycling test, pH and drying time differed among several formulations, particularly between F0 and F3 ($p<0.05$), while the spray pattern differed between F0 and F1 ($p<0.05$). F2 containing 1% extract was determined as the best formulation. During room-temperature storage, differences in pH were observed among several formulation pairs on days 7, 14, 21, and 28, while differences in spray pattern and drying time were observed among several formulations at certain observation times ($p<0.05$). Therefore, the ethanol extract of Ketepeng Cina leaves can be formulated as a spray emulsion with good physical characteristics and stability and has potential for further development as a topical antifungal preparation.

Keywords: Cassia alata L., ethanol extract, spray emulsion, antifungal, stability.