

INTISARI

SEPTIA, U., 2020, SEDIAAN TOPIKAL DAN AKTIVITAS ANTIOKSIDAN TANAMAN FAMILI APIACEAE, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Antioksidan merupakan senyawa yang dapat menunda, memperlambat, dan mencegah reaksi oksidasi yang disebabkan radikal bebas. Antioksidan alami saat ini dikembangkan karena dinilai lebih aman dibandingkan antioksidan sintetik. Sumber antioksidan alami dapat berasal dari tanaman famili Apiaceae, seperti jintan putih, seledri, pegagan, dan adas. Tujuan dilakukannya penelitian ini yaitu untuk mengetahui potensi antioksidan dari tanaman famili Apiaceae dan menentukan tanaman yang memiliki potensi antioksidan terbesar. Tujuan selanjutnya yaitu untuk mengetahui stabilitas sediaan topikal dari bahan alam tanaman famili Apiaceae.

Penelitian ini dilakukan dengan metode studi literatur *review* meliputi mencari artikel terkait, mengevaluasi data dari artikel, membuat rangkuman, dan menggabungkan data menjadi satu cerita ilmiah yang lengkap. Pengambilan data aktivitas antioksidan tanaman dilihat dari nilai IC_{50} masing-masing jurnal. Evaluasi sifat fisik sediaan topikal berdasarkan data literatur meliputi uji organoleptis, homogenitas, pH, daya sebar, daya lekat, viskositas, dan uji stabilitas.

Aktivitas antioksidan minyak atsiri jintan putih dinyatakan dalam IC_{50} sebesar $12,43 \pm 1,8$ ppm; minyak atsiri biji adas sebesar $32,32 \pm 0,77$ ppm; ekstrak metanol seledri sebesar 30,1 ppm; dan ekstrak metanol daun pegagan sebesar 28,17 ppm. Hasil nilai IC_{50} dibawah 50 ppm sehingga dikategorikan antioksidan sangat kuat. Dari data literatur *review* tersebut dapat disimpulkan tanaman famili Apiaceae mayoritas memiliki aktivitas antioksidan. Sedangkan untuk sediaan topikal yang paling stabil yaitu formula 1 masker gel *peel off* ekstrak seledri.

Kata kunci: Antioksidan, tanaman famili Apiaceae, sediaan topikal

ABSTRACT

UTAMI, S., TOPICAL FORMULATION AND ANTIOXIDANT ACTIVITY OF THE APIACEAE FAMILY OF PLANTS, THRIPSY, PHARMACEUTICAL FACULTY, UNIVERSITY OF BUDI, SURAKARTA

Antioxidant was compound that can delayed and prevent oxidation reactions caused by free radicals. Natural antioxidants were currently being developed because they are considered safer than synthetic antioxidant. Natural antioksidan could be found by Apiaceae family plant, such as white cumin (*Cuminum cyminum* L.), fennel (*Foeniculum vulgare* Mill.), celery (*Apium graveolens* L.), and gotu kola (*Centella asiatica* L.). The purpose of this study was determined the antioxidant potential of the Apiaceae family plants and determined which plants have the greatest antioxidant potential. The next goal was determined the stability of topical formulations from the natural ingredients of the Apiaceae family of plants.

This research was conducted with a literature review study method including found related articles, evaluated data from the articles, made summaries, and combined the data into one complete scientific story. Data collection on plant antioxidant activity seen from the IC₅₀ value of each journal. Evaluation of the physical properties of topical formulation based on literature data including organoleptic, homogeneity, pH, dispersion, adhesion, viscosity, and stability tests.

The antioxidant activity of white cumin essential oil was expressed in IC₅₀ of 12,43±1,8 ppm; fennel seed essential oil of 32,32±0,77 ppm; celery methanol extract of 30,1 ppm; and methanol extract of gotu kola leaves by 28,17 ppm. IC₅₀ results below 50 ppm, so it is categorized as a powerful antioxidant. From the literature review data, it can be concluded that the majority of Apiaceae plants have antioxidant activity. While for the most stable topical formulation is formulation 1 *peel off* gel mask of celery extract.

Keywords: Antioxidant, Apiaceae family plant, topical formulation