INTISARI

HARTONO, D., 2020, UJI AKTIVITAS *ANTI-AGING* SECARA *IN VIVO* DARI SEDIAAN EMULGEL MINYAK ATSIRI DAUN JERUK PURUT (*Citrus hystrix* DC), SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Radiasi sinar UV A dapat menembus dermis sehingga kulit menjadi berkerut dan menyebabkan penuaan dini. Penuaan dini dapat dicegah dengan menggunakan produk *anti-aging*. Minyak atsiri daun jeruk purut (*Citrus hystrix* DC) memiliki aktivitas antioksidan untuk melindungi kulit dari kerusakan sel akibat radikal bebas. Penelitian ini dilakukan untuk mengetahui aktivitas emulgel minyak atsiri daun jeruk purut sebagai *anti-aging* secara *in vivo***.**

Minyak atsiri daun jeruk purut dilakukan karakterisasi kemudian dilakukan uji aktivitas antioksidan, setelah itu diformulasikan ke dalam sediaan emulgel dengan konsentrasi 10, 15, dan 20%. Emulgel dilakukan uji mutu fisik dan stabilitas serta uji iritasi primer. Uji aktivitas *anti-aging* menggunakan 5 ekor kelinci yang dicukur bulu punggungnya kemudian diinduksi UV A selama 2 minggu, setelah itu diberikan perlakuan selama 30 hari. Parameter persen pigmen, kolagen, elastisitas, dan kelembaban diamati menggunakan alat *skin analyzer*.

Hasil karakterisasi sesuai dengan *Certificate of Analysis* yang diberikan. Hasil uji aktivitas antioksidan menghasilkan nilai IC_{50} sebesar 22,42 ppm. Minyak atsiri daun jeruk purut dapat diformulasikan menjadi sediaan emulgel yang memiliki mutu fisik dan stabilitas yang baik. Hasil uji iritasi primer menunjukkan bahwa sediaan emulgel tidak mengiritasi. Hasil uji aktivitas *anti-aging* menunjukkan sediaan emulgel minyak atsiri daun jeruk purut dengan konsentrasi 20% memberikan efek *anti-aging* paling optimal.

Kata kunci: minyak atsiri daun jeruk purut, emulgel, aktivitas *anti-aging*, *skin analyzer*

ABSTRACT

HARTONO, D., 2020, IN VIVO ANTI-AGING ACTIVITY TEST OF EMULGEL FROM KAFFIR LIME LEAF ESSENTIAL OIL (Citrus hystrix DC), SKRIPSI, FACULTY PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA.

UV A radiation can penetrate dermis so the skin becomes wrinkled and causes premature aging. Premature aging can be prevented by using anti-aging products. Kaffir lime leaf essential oil (*Citrus hystrix* DC) has antioxidant activity to protect skin from cell damage caused by free radicals. This research was conducted to determine activity of emulgel from kaffir lime leaf essential oil as anti-aging in vivo.

Kaffir lime leaf essential oil was characterized and tested its antioxidant activity, then formulated into emulgel with concentrations of 10, 15, and 20%. Emulgel was tested for physical quality and stability as well as primary irritation test. Anti-aging activity test used 5 rabbits that had their backs shaved and induced UV A for 2 weeks, then they were given treatment for 30 days. Percent pigment, collagen, elasticity, and moisture were observed using skin analyzer.

The characterization are accordance with Certificate of Analysis. Antioxidant activity test resulted IC_{50} value is 22,42 ppm. Kaffir lime leaf essential oil can be formulated into emulgel that has good physical quality and stability. The primary irritation test showed emulgel was not irritating. Anti-aging activity test showed emulgel from kaffir lime leaf essential oil with concentration of 20% gave optimal anti-aging effect.

Keywords: kaffir lime leaf essential oil, emulgel, anti-aging activity, skin analyzer