

ABSTRACT

THE EFFECT OF FACE MIST PREPARATION OF CALAMANSI CITRUS (*Citrus microcarpa Bunge*) ESSENTIAL OIL ON THE ELASTICITY & SENSITIVITY OF THE SKIN OF THE BACK OF MALE RATS (*Rattus norvegicus*) WISTAR STRAIN EXPOSED TO ULTRAVIOLET-B RAYS

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Background : UV-B radiation from exposure to sunlight triggers photoaging, giving rise to Reactive Oxygen Species (ROS) and excess free radicals, causing premature aging. Kalamansi Orange essential oil, due to its antioxidant potential, is used as an anti-aging agent. This study aims to determine the effect of kalamansi orange essential oil face mist on the elasticity and sensitivity of the back skin of male Wistar rats exposed to ultraviolet-B light.

Methods : Experimental, randomized pre-test and post-test control group research design. Face Mist is made with varying concentrations of Kalamansi Orange (*Citrus microcarpa Bunge*) essential oil 2.5% (F1), 5% (F2), 10% (F3) and face mist base (F0). The effect of Face Mist was observed on the elasticity and sensitivity of the back skin of male Wistar rats using the Skin Analyzer EH900U for 28 days. Data analysis used the parametric Paired Sample T-test, Wilcoxon test, Bonferroni Post Hoc test.

Results : The elasticity of F1 mice increased significantly after intervention ($p < 0.05$), but a higher concentration of face mist did not provide a significant increase ($p > 0.05$). F1 mice also showed that their skin did not experience sensitivity, with loss of erythema ($p < 0.05$), this did not occur in the other groups.

Conclusion : Applying 2.5% (F1) Kalamansi Orange essential oil face mist can increase elasticity and reduce skin sensitivity.

Keyword : Calamansi orange, elasticity, photoaging, sensitivity,

ABSTRAK

PENGARUH SEDIAAN *FACE MIST* MINYAK ATSIRI JERUK KALAMANSI (*Citrus microcarpa* Bunge) TERHADAP ELASTISITAS & SENSITIVITAS KULIT PUNGGUNG TIKUS JANTAN (*Rattus norvegicus*) GALUR WISTAR YANG DIPAPAR SINAR ULTRAVIOLET-B

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Latar Belakang : Radiasi UV-B dari paparan sinar matahari, memicu *Photoaging* menimbulkan *Reactive Oxygen Species* (ROS) dan radikal bebas berlebih menyebabkan penuaan dini. Minyak atsiri Jeruk Kalamansi karena potensi antioksidannya, digunakan sebagai anti penuaan dini. Penelitian ini bertujuan untuk mengetahui pengaruh *face mist* minyak atsiri jeruk kalamansi terhadap elastisitas dan sensitivitas kulit punggung tikus jantan galur wistar yang dipapar sinar ultraviolet-B

Metode : Eksperimental, rancangan penelitian *the randomized pre-test and post-test control group*. *Face Mist* dibuat dengan variasi konsentrasi minyak atsiri Jeruk Kalamansi (*Citrus microcarpa* Bunge) 2.5% (F1), 5% (F2), 10% (F3) dan basis *face mist* (F0). *Face Mist* diamati pengaruhnya terhadap elastisitas dan sensitivitas kulit punggung tikus jantan galur wistar menggunakan *Skin Analyzer* EH900U selama 28 hari. Analisis data menggunakan uji parametrik *Paired Sample T-test*, uji *Wilcoxon*, uji *Post Hoc Bonferroni*.

Hasil : Elastisitas tikus F1 meningkat signifikan sesudah intervensi ($p < 0.05$), namun konsentrasi *face mist* yang lebih tinggi tidak memberikan peningkatan signifikan ($p > 0.05$). Tikus F1 juga memperlihatkan kulit tikus tidak mengalami sensitivitas, dengan hilangnya eritema ($p < 0.05$), hal ini tidak terjadi pada kelompok lain.

Kesimpulan : Pemberian *face mist* minyak atsiri Jeruk Kalamansi 2.5% (F1) dapat meningkatkan elastisitas dan menurunkan sensitivitas kulit.

Kata Kunci : Elastisitas, jeruk kalamansi, *photoaging*, sensitivitas.