FORMULASI DAN EVALUASI SEDIAAN *BODY LOTION* DENGAN KOMBINASI EKSTRAK UMBI BIT (*Beta vulgaris* L.) DAN MINYAK ZAITUN (*Olive oil*)

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ABSTRAK

Paparan radikal bebas akibat polusi, sinar ultraviolet, dan asap rokok dapat mempercepat penuaan kulit. Umbi bit (*Beta vulgaris* L.) mengandung betalain yang berpotensi sebagai antioksidan alami dan minyak zaitun (*Olive oil*) sebagai emolien dalam sediaan *body lotion* untuk memberikan efek sinergis, yaitu melindungi kulit dari radikal bebas sekaligus meningkatkan kelembapan. Penelitian bertujuan memformulasikan *body lotion* dengan variasi konsentrasi ekstrak umbi bit 0%, 1%, 3%, dan 5% b/b serta minyak zaitun 3% b/b, kemudian mengevaluasi sifat fisik, stabilitas, dan keamanannya. Penelitian dilakukan secara eksperimental laboratorium dengan ekstraksi umbi bit menggunakan metode maserasi dengan etanol 96%. Evaluasi meliputi organoleptik, homogenitas, viskositas, daya sebar, pH, *cycling test* selama 6 siklus, dan uji iritasi (*patch test*) pada 24 sukarelawan. Data dianalisis secara deskriptif dan statistik menggunakan *One-Way ANOVA*. Hasil penelitian menunjukkan bahwa seluruh formula *body lotion* memiliki karakteristik fisik yang memenuhi persyaratan, yaitu pH berkisar antara (5,58-5,93), viskositas (4250-5333) cPs, daya sebar (6,15-6,47) cm, serta tetap stabil setelah uji *cycling test*. Hasil uji iritasi menunjukkan bahwa sediaan tidak menimbulkan reaksi iritasi (0) pada seluruh sukarelawan. Dengan demikian, kombinasi ekstrak umbi bit dan minyak zaitun dapat diformulasikan menjadi sediaan *body lotion* yang memiliki sifat fisik baik, stabil, dan aman digunakan.

Kata kunci: *Beta vulgaris* L., *body lotion*, minyak zaitun, antioksidan, evaluasi sediaan.

FORMULATION AND EVALUATION OF A BODY LOTION WITH A COMBINATION OF BEET (Beta vulgaris L.) EXTRACT AND OLIVE OIL

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ABSTRACT

Exposure to free radicals caused by pollution, ultraviolet rays, and cigarette smoke can accelerate skin aging. Beetroot (Beta vulgaris L.) contains betalains, which have potential as natural antioxidants, while olive oil acts as an emollient; their combination in a body lotion formulation offers a synergistic effect by protecting the skin from free radicals and enhancing moisture. This study aimed to formulate body lotions using varying concentrations of beetroot extract (0%, 1%, 3%, and 5%) w/w and a fixed concentration of olive oil (3%) w/w, followed by an evaluation of their physical properties, stability, and safety. The study employed an experimental laboratory design, with beetroot extraction performed via the maceration method using 96% ethanol. Evaluations included organoleptic properties, homogeneity, viscosity, spreadability, pH, a 6-cycle stability test, and an irritation test (patch test) involving 24 volunteers. Data were analyzed descriptively and statistically using One-Way ANOVA. The research results indicate that all body lotion formulations possess physical characteristics meeting the required standards: pH values ranging from (5.58-5.93), viscosity between (4,250-5,333) cPs, and spreadability between (6.15-6.47) cm; furthermore, they remained stable following cycling tests. Irritation test results showed no signs of irritation (score of 0) among any of the volunteers. Thus, a combination of beetroot extract and olive oil can be formulated into a body lotion that exhibits favorable physical properties, stability, and safety for use.

Keywords*: Beta vulgaris L., body lotion, olive oil, antioxidant, product evaluation.*