

EVALUASI SIFAT FISIKA KIMIA DAN AKTIVITAS ANTI NYAMUK

Aedes aegypti SEDIAAN KRIM EKSTRAK KULIT KAYU MANIS

(*Cinnamomum burmannii*)

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INTISARI

Latar Belakang: Minyak atsiri yang terkandung dalam kulit kayu manis (*Cinnamomum burmannii*) memiliki aktivitas anti nyamuk sehingga dapat digunakan sebagai perlindungan dari gigitan nyamuk *Aedes aegypti*. Krim ekstrak kulit kayu manis merupakan salah satu bentuk sediaan topikal yang sesuai untuk penggunaan pada kulit. Sehingga dapat melindungi dari gigitan nyamuk *Aedes aegypti*.

Tujuan Penelitian: Untuk mengevaluasi sifat fisika kimia krim yang dibuat berdasarkan variasi konsentrasi ekstrak serta aktivitas anti nyamuk.

Metode Penelitian: Ekstrak kulit kayu manis diperoleh secara maserasi menggunakan pelarut etanol 70%. Krim dibuat berdasarkan variasi konsentrasi ekstrak kulit kayu manis yaitu 0%, 3%, 6%, dan 9%. Krim yang diperoleh dievaluasi terhadap sifat fisika kimia meliputi organoleptis, homogenitas, viskositas, daya sebar, daya lekat, pH, dan stabilitas krim serta aktivitas anti nyamuk. Data hasil uji organoleptis dan homogenitas dianalisis secara diskriptif, dan data hasil uji viskositas, daya sebar, daya lekat, dan aktivitas anti nyamuk serta pH dianalisis secara statistik.

Hasil Penelitian: Krim ekstrak kulit kayu manis yang diperoleh menunjukkan bahwa kenaikan konsentrasi ekstrak meningkatkan viskositas, daya sebar, daya lekat, dan tidak menunjukkan aktivitas anti nyamuk.

Kesimpulan: Peningkatan konsentrasi ekstrak kulit kayu manis terjadinya peningkatan karakteristik fisika kimia krim seperti daya lekat, daya sebar, viskositas, dan penggunaan krim tanpa ekstrak dan peningkatan konsentrasi ekstrak kulit kayu manis tidak dapat menunjukkan aktivitas anti nyamuk untuk semua formula sediaan krim.

Kata Kunci : aktivitas anti nyamuk, nyamuk *Aedes aegypti*, sediaan anti nyamuk, kulit kayu manis, krim, variasi konsentrasi ekstrak

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EVALUATION OF THE PHYSICAL CHEMICAL PROPERTIES AND ANTI-MOSQUITO ACTIVITY OF *Aedes aegypti* PREPARATION OF CINNAMON (*Cinnamomum burmannii*) BARK EXTRACT CREAM

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ABSTRACT

Background: The essential oil contained in cinnamon bark (*Cinnamomum burmannii*) has anti-mosquito activity so it can be used as protection against *Aedes aegypti* mosquito bites. Cinnamon bark extract cream is a topical dosage form that is suitable for use on the skin. So it can protect against bites from the *Aedes aegypti* mosquito.

Research Objective: To evaluate the physicochemical properties of creams made based on variations in extract concentration and anti-mosquito activity.

Research Method: Cinnamon bark extract was obtained by maceration using 70% ethanol solvent. The cream is made based on varying concentrations of cinnamon bark extract, namely 0%, 3%, 6% and 9%. The cream obtained was evaluated for physicochemical properties including organoleptic, homogeneity, viscosity, spreadability, stickiness, pH, and stability of the cream as well as anti-mosquito activity. Data from organoleptic and homogeneity tests were analyzed descriptively, and data from viscosity, spreadability, stickiness and anti-mosquito activity and pH tests were analyzed statistically.

Research Results: The cinnamon bark extract cream obtained showed that increasing the extract concentration increased viscosity, spreadability, stickiness, and did not show anti-mosquito activity.

Conclusion: Increasing the concentration of cinnamon bark extract increases the physicochemical characteristics of cream such as stickiness, spreadability, viscosity, and the use of cream without extract and increasing the concentration of cinnamon bark extract cannot show anti-mosquito activity for all cream preparation formulas.

Keywords: anti-mosquito activity, *Aedes aegypti* mosquito, anti-mosquito preparations, cinnamon bark, cream, variations in extract concentration

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