

FORMULASI DAN UJI EFEKTIVITAS EKSTRAK DAUN BELIMBING WULUH (*Averrhoa bilimbi L.*) SEBAGAI GEL LUKA BAKAR

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ABSTRAK

Latar Belakang: Pertolongan pertama luka bakar penting dilakukan agar tidak terjadi efek lanjut yang tidak diinginkan. Ekstrak daun belimbing wuluh mengandung senyawa yang berpotensi sebagai penutup luka bakar. Saat ini belum pernah dilaporkan sediaan gel luka bakar dari ekstrak daun Belimbing wuluh. Karakteristik sediaan gel dipengaruhi *gelling agent*-nya seperti karagenan, karbopol dan HPMC.

Tujuan: Mengetahui pengaruh variasi *gelling agent* terhadap sifat fisik sediaan ekstrak daun belimbing wuluh. Mengetahui efektivitas sediaan gel ekstrak daun belimbing wuluh terhadap luka bakar.

Metode: Penelitian dilakukan secara eksperimental. Diawali dengan standarisasi simplisia daun belimbing wuluh, diikuti ekstraksi dan karakterisasi ekstrak. Formulasi sediaan gel dengan variasi *gelling agent* karagenan, karbopol dan HPMC. Sediaan gel ditentukan sifat fisik dan stabilitasnya. Efektivitas penyembuhan luka bakar dilakukan secara *in vivo* pada kelinci (*Oryctolagus cuniculus*). Pengaruh basis gel terhadap sifat fisik dan efektivitas penyembuhan dianalisis menggunakan metode statistik ANOVA.

Hasil: Simplisia dan ekstrak daun Belimbing Wuluh yang digunakan memenuhi standard Materia Medika Indonesia. Karakteristik sediaan gel meliputi organoleptik, homogenitas, daya sebar dan pH telah memenuhi syarat. Basis gel karbopol memiliki stabilitas lebih baik dari HPMC dan karagenan.

Kesimpulan: Variasi jenis basis gel berpengaruh terhadap sifat fisik sediaan gel ekstrak daun belimbing wuluh. Gel daun belimbing wuluh tidak efektif menyembuhkan luka bakar.

Kata kunci: Daun belimbing wuluh, gel luka bakar, sifat fisik, *gelling agent*

FORMULATION AND EFFECTIVENESS TEST OF WULUH BELIMBING LEAVES EXTRACT (*Averrhoa bilimbi* L.) AS A BURN GEL

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ABSTRACT

Background: First aid for burns is important to prevent further unwanted effects. Belimbing wuluh leaf extract contains compounds that have the potential to cover burns. Currently, there has never been reported a burn gel preparation from Belimbing wuluh leaf extract. The characteristics of gel preparations are influenced by gelling agents such as carrageenan, carbopol and HPMC.

Objective: Knowing the effect of gelling agent variation on the physical properties of star fruit leaf extract preparation. Knowing the effectiveness of star fruit leaf extract gel preparation on burn wounds.

Methods: The study was conducted experimentally. Beginning with the standardization of star fruit leaf simplisia, followed by extraction and characterization of extracts. Formulation of gel preparations with variations of gelling agents carrageenan, carbopol and HPMC. Gel preparations were determined for physical properties and stability. The effectiveness of burn wound healing was performed in vivo on rabbits (*Oryctolagus cuniculus*). The effect of gel base on physical properties and healing effectiveness was analyzed using ANOVA statistical method.

Results: Simplisia and Belimbing Wuluh leaf extract used meet the Indonesian Materia Medica standard. Gel preparation characteristics include organoleptics, homogeneity, spreadability and pH have met the requirements. Carbopol gel base has better stability than HPMC and carrageenan.

Conclusion: Variations in the type of gel base affect the physical properties of star fruit leaf extract gel preparation. Star fruit leaf gel is not effective in healing burns.

Keyword: Star fruit leaves, burn gel, physical properties, gelling agent