

ABSTRAK

FANABILA PUTRI BHAYANGKARI, 2025, PENGARUH KOMBINASI PEMBERIAN SEDIAAN ORAL DAN TOPIKAL SALEP EKSTRAK ETANOL DAUN KITOLOD (*Isotoma Longiflora* L.) TERHADAP PENYEMBUHAN LUKA SAYAT KELINCI NEW ZEALAND WHITE MODEL DIABETES INDUKSI ALOKSAN. SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. apt. Gunawan Pamudji Widodo, M.Si. dan apt. Dwi Ningsih, S.Si., M.Farm.

Daun kitolod (*Isotoma Longiflora* L.) diketahui mengandung berbagai senyawa bioaktif seperti flavonoid, saponin dan tanin, yang memiliki aktivitas mempercepat proses penyembuhan luka terutama penderita diabetes. Penelitian ini bertujuan untuk mengetahui pengaruh kombinasi pemberian sediaan oral dan topical salep ekstrak etanol daun kitolod (*Isotoma longiflora* L.) terhadap penyembuhan luka pada kelinci putih model diabetes yang diinduksi dengan aloksan.

Diabetes diinduksi menggunakan aloksan dosis 150 mg/kgBB secara intravena. Kelinci dibagi menjadi 5 kelompok perlakuan. Kelompok 1 kontrol negatif (salep basis + oral 100 mg/kgBB), kelompok 2 kontrol positif (salep betadine + oral 100 mg/kgBB), kelompok 3 (salep ekstrak daun kitolod konsentrasi 10% + oral 100 mg/kgBB), kelompok 4 (salep ekstrak daun kitolod konsentrasi 20% + oral 100 mg/kgBB), dan kelompok 5 (salep ekstrak daun kitolod konsentrasi 30% + oral 100 mg/kgBB). Parameter penyembuhan luka diamati selama 21 hari menggunakan metode pengukuran panjang luka sayat, serta dilakukan evaluasi mutu fisik sediaan salep (organoleptik, homogenitas, pH, viskositas, dan daya lekat).

Hasil penelitian menunjukkan bahwa kombinasi terapi oral dan topikal ekstrak daun kitolod berpengaruh signifikan dalam mempercepat penyembuhan luka pada model hewan diabetes. Formula 3 (salep ekstrak daun kitolod konsentrasi 30% + oral 100 mg/kgBB) menunjukkan hasil terbaik dengan laju penyembuhan luka yang paling cepat serta hasil uji mutu fisik salep yang memenuhi persyaratan. Berdasarkan uji ANOVA satu arah dan uji lanjut Tukey HSD, perbedaan antar formula dinyatakan signifikan ($p < 0,05$). Dengan demikian, kombinasi sediaan oral dan topikal ekstrak daun kitolod memiliki potensi sebagai terapi alternatif untuk penyembuhan luka diabetes.

Kata kunci: daun kitolod, diabetes, luka, salep topical, terapi oral, flavonoid, aloksan

ABSTRACT

FANABILA PUTRI BHAYANGKARI, 2025. THE EFFECT OF COMBINED ORAL ADMINISTRATION AND TOPICAL OINTMENT OF ETHANOLIC EXTRACT OF KITOLOD LEAVES (*Isotoma Longiflora* L.) ON INCISED WOUND HEALING IN ALLOXAN-INDUCED DIABETIC WHITE RABBITS. UNDERGRADUATE THESIS, BACHELOR OF PHARMACY STUDY PROGRAM, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA. Supervised by Dr. apt. Gunawan Pamudji Widodo, M.Si. and apt. Dwi Ningsih, S.Si., M.Farm.

Kitolod leaves (*Isotoma longiflora* L.) are known to contain various bioactive compounds such as flavonoids, saponins and tannins, which exhibit anti-inflammatory, antimicrobial, and epithelialization-promoting activities. This study aimed to evaluate the effect of combined oral and topical administration of ethanol extract of kitolod leaves on wound healing in diabetic New Zealand White rabbits induced with alloxan.

Diabetes was induced intravenously using alloxan at a dose of 150 mg/kg body weight. The rabbits were divided into five treatment groups: Group 1 as the negative control (ointment base + oral 100 mg/kg BW), Group 2 as the positive control (Betadine ointment + oral 100 mg/kg BW), Group 3 (10% kitolod leaf extract ointment + oral 100 mg/kg BW), Group 4 (20% kitolod extract ointment + oral 100 mg/kg BW), and Group 5 (30% kitolod extract ointment + oral 100 mg/kg BW). Wound healing was observed over 21 days by measuring the length of the incision wound, and physical quality evaluations of the ointments were carried out (organoleptic properties, homogeneity, pH, viscosity, and adhesion).

The results showed that the combination of oral and topical kitolod extract significantly accelerated wound healing in the diabetic animal model. Formula 3 (30% kitolod extract ointment + oral 100 mg/kg BW) demonstrated the best performance with the fastest healing rate and met the physical quality standards of topical formulations. Based on one-way ANOVA and Tukey HSD post hoc analysis, the differences among the treatment groups were statistically significant ($p < 0.05$). Thus, the combination of oral and topical administration of kitolod leaf extract has promising potential as an alternative therapy for diabetic wound healing.

Keywords: kitolod leaf, diabetes, wound, topical ointment, oral therapy, flavonoids, alloxan