ABSTRAK

Diabetes melitus merupakan penyakit metabolik kronis yang dapat menimbulkan komplikasi berupa luka diabetes (diabetic ulcer) yang sulit sembuh akibat gangguan sirkulasi, infeksi, dan peradangan berkepanjangan. Pengobatan luka diabetes memerlukan alternatif terapi yang efektif, aman, dan mudah diaplikasikan, salah satunya melalui pemanfaatan bahan alam. Penelitian ini bertujuan untuk memformulasikan serta menguji aktivitas sediaan krim kombinasi fraksi etil asetat daun brotowali (Tinospora crispa L.) dan daun kersen (Muntingia calabura L.) sebagai terapi topikal pada luka diabetes. Penelitian ini merupakan penelitian eksperimental laboratorium. Ekstrak daun brotowali dan daun kersen diperoleh melalui proses ekstraksi dan fraksinasi menggunakan pelarut etil asetat. Uji aktivitas antibakteri dilakukan dengan metode difusi cakram berdasarkan pengukuran diameter zona hambat. Ekstrak daun brotowali diuji pada konsentrasi 2%, 4%, dan 6%, sedangkan ekstrak daun kersen diuji pada konsentrasi 5%, 10%, dan 15%.Hasil penelitian menunjukkan bahwa ekstrak daun brotowali memiliki diameter zona hambat rata-rata sebesar 8,5–9,13 mm, sedangkan ekstrak daun kersen menunjukkan aktivitas antibakteri yang lebih tinggi dengan diameter zona hambat rata-rata sebesar 10,13–10,96 mm. Kontrol positif menunjukkan diameter zona hambat sebesar 24,4 ± 0,43 mm, sementara kontrol negatif tidak menunjukkan aktivitas antibakteri. Berdasarkan hasil tersebut, dapat disimpulkan bahwa ekstrak daun brotowali dan daun kersen memiliki aktivitas antibakteri dengan potensi sebagai bahan aktif dalam formulasi sediaan krim. Kombinasi kedua ekstrak diharapkan dapat memberikan efek sinergis dalam membantu proses penyembuhan luka diabetes (diabetic ulcer).

Kata Kunci: Diabetes Mellitus; Diabetic Ulcer;Brotowali; Daun Kersen; Sediaan Krim

ABSTRACT

Diabetes mellitus is a chronic metabolic disease that can lead to complications in the form of diabetic ulcers that are difficult to heal due to impaired circulation, infection, and prolonged inflammation. Treatment of diabetic wounds requires effective, safe, and easy-to-apply alternative therapies, one of which is through the use of natural ingredients. This study aimed to formulate and test the activity of a cream preparation combining ethyl acetate fractions of Tinospora crispa L. and Muntingia calabura L. leaves as a topical therapy for diabetic wounds. This was an experimental laboratory study. Tinospora crispa and Muntingia calabura leaf extracts were obtained through extraction and fractionation using ethyl acetate as a solvent. Antibacterial activity was tested using the disc diffusion method based on the measurement of the diameter of the inhibition zone. Tinospora crispa leaf extract was tested at concentrations of 2%, 4%, and 6%, while Muntingia calabura leaf extract was tested at concentrations of 5%, 10%, and 15%. The results showed that the Tinospora crispa leaf extract had an average inhibition zone diameter of 8.5–9.13 mm, while the Surinam cherry leaf extract demonstrated higher antibacterial activity, with an average inhibition zone diameter of 10.13–10.96 mm. The positive control showed an inhibition zone diameter of 24.4 ± 0.43 mm, while the negative control showed no antibacterial activity. Based on these results, it can be concluded that Tinospora crispa and Surinam cherry leaf extracts possess antibacterial activity with potential as active ingredients in cream formulations. The combination of the two extracts is expected to provide a synergistic effect in aiding the healing process of diabetic ulcers.

Keywords : Diabetes Mellitus; Diabetic Ulcer; Brotowali; Cherry Leaves; Cream Dosage.