

UJI EFEKTIVITAS INFUSA AKAR KAYU MANIS (*Cinnamomum burmannii* (Nees & Th. Nees) Blume) TERHADAP PENURUNAN KADAR GULA DARAH MENCIT PUTIH JANTAN DIABETES

ABSTRAK

Diabetes adalah keadaan ketika kadar gula darah sewaktu ≥ 200 mg/dl (11,1 mmol/dl). Diabetes tipe 1 terjadi akibat autoimun yang merusak sel β pankreas, sedangkan diabetes tipe 2 disebabkan oleh defisiensi insulin, resistensi insulin, atau keduanya. Salah satu alternatif pengobatan tradisional dapat menggunakan tanaman kayu manis (*Cinnamomum burmannii* (Nees & Th. Nees) Blume) yang mengandung senyawa antidiabetes seperti *cinnamaldehyde*, *linalool*, *kaemferol*, dan *quercetin*. Penelitian ini merupakan penelitian eksperimental laboratorium yang bertujuan untuk mengetahui kadar gula darah pada 25 ekor mencit putih jantan yang diinduksi aloksan dengan dosis 150 mg/kgBB secara intraperitoneal. . Mencit dengan kadar glukosa darah >200 mg/dL dibagi menjadi lima kelompok, yaitu kontrol positif, pembanding (metformin), serta kelompok infusa akar kayu manis konsentrasi 2,5%, 5%, dan 10%. Perlakuan diberikan selama 15 hari, sedangkan pengukuran kadar gula darah dilakukan pada hari ke-0, 5, 10, dan 15 menggunakan glukometer. Data dianalisis menggunakan ANOVA dua arah dan dilanjutkan dengan uji Duncan pada taraf kepercayaan 95%. Hasil penelitian menunjukkan bahwa pemberian infusa akar kayu manis konsentrasi 2,5%, 5%, dan 10% dapat menurunkan kadar gula darah secara signifikan ($p < 0,05$). Hasil uji Duncan menunjukkan bahwa kelompok infusa 2,5% dan 5% tidak berbeda nyata dengan kelompok pembanding ($p > 0,05$). Selain itu, penurunan kadar gula darah meningkat seiring lamanya pemberian infusa, dengan penurunan terbesar terjadi pada hari ke-15. Berdasarkan hasil penelitian, infusa akar kayu manis efektif menurunkan kadar gula darah pada mencit diabetes, dengan konsentrasi 2,5% sebagai konsentrasi yang paling efektif.

Kata kunci: Diabetes melitus, *Cinnamomum burmannii* (Nees & Th. Nees) Blume, aloksan, gula darah, infusa

EFFECTIVENESS OF CINNAMON ROOT INFUSION (*Cinnamomum burmannii* (Nees & Th. Nees) Blume) ON REDUCING BLOOD GLUCOSE LEVELS IN DIABETIC MALE WHITE MICE

ABSTRACT

Diabetes is a condition characterized by elevated blood glucose levels, with random blood glucose levels of ≥ 200 mg/dL (11.1 mmol/L). Type 1 diabetes occurs due to an autoimmune response that damages pancreatic β -cells, whereas type 2 diabetes is caused by insulin deficiency, insulin resistance, or a combination of both. One traditional alternative for diabetes management is the use of cinnamon (*Cinnamomum burmannii* (Nees & Th. Nees) Blume), which contains antidiabetic compounds such as *cinnamaldehyde*, *linalool*, *kaempferol*, and *quercetin*. This study was a laboratory experimental study aimed at determining the effects of cinnamon root infusion on blood glucose levels in 25 male white mice induced with alloxan at a dose of 150 mg/kg body weight intraperitoneally. Mice with blood glucose levels >200 mg/dL were divided into five groups: a positive control group, a comparison group receiving metformin, and three treatment groups receiving cinnamon root infusion at concentrations of 2.5%, 5%, and 10%. The treatments were administered for 15 days, and blood glucose levels were measured on days 0, 5, 10, and 15 using a glucometer. The data were analyzed using two-way ANOVA followed by Duncan's multiple range test at a 95% confidence level. The results showed that administration of cinnamon root infusion at concentrations of 2.5%, 5%, and 10% significantly reduced blood glucose levels ($p < 0.05$). Duncan's test showed that the 2.5% and 5% infusion groups were not significantly different from the comparison group ($p > 0.05$). In addition, the reduction in blood glucose levels increased with the duration of treatment, with the greatest reduction observed on day 15. Based on these findings, cinnamon root infusion was effective in reducing blood glucose levels in diabetic mice, with the 2.5% concentration showing the greatest effectiveness.

Keywords: Diabetes mellitus, *Cinnamomum burmannii* (Nees & Th. Nees) Blume, alloxan, blood glucose, infusion