

INTISARI

Diabetes mellitus adalah penyakit yang disebabkan defisiensi insulin yang ditandai keadaan hiperglikemik. Dalam pengobatan tradisional, penyakit ini sering diobati dengan menggunakan rebusan daun pletekan (*Ruellia tuberosa* Linn.). Penggunaannya didasarkan pada pengalaman dan belum terbukti secara ilmiah. Oleh karena itu, penelitian ini dilakukan untuk mendapatkan bukti ilmiah tentang penggunaan tersebut.

Penelitian ini merupakan penelitian eksperimental murni dengan rancangan acak lengkap pola searah dengan metode Uji Toleransi Glukosa Oral (UTGO). Dua puluh lima ekor tikus dibagi secara acak dalam 5 kelompok. Kelompok I (kontrol negatif) diberi air suling 25 ml/kgBB dan kelompok II (kontrol positif) diberi larutan glibenklamida dosis 0,45 mg/kgBB. Kelompok III diberi rebusan daun pletekan dosis 0,441 g/kgBB, kelompok IV diberi rebusan daun pletekan dosis 0,882 g/kgBB, dan kelompok V diberi rebusan daun pletekan dosis 1,764 g/kgBB. Kadar glukosa darah ditetapkan dengan metode enzimatik *Glukosa oxidase p-aminophenazone* (GOD-PAP). Data kadar glukosa darah pada tiap kelompok dianalisis secara statistik menggunakan metode *split-plot* dilanjutkan dengan uji *Tukey* bertaraf kepercayaan 95%. Data Luas Daerah Dibawah Kurva (LDDK⁰⁻²⁴⁰) diuji dengan *Kruskal-Wallis* dan dilanjutkan uji *Mann-Whitney* bertaraf kepercayaan 95%. Analisis hasil yang dilakukan meliputi akurasi, presisi, selektivitas, sensitifitas, dan linearitas.

Hasil analisis menunjukkan air rebusan daun pletekan (*Ruellia tuberosa* Linn.) dengan dosis 0,441 g/kgBB; 0,882 g/kgBB; dan 1,764 g/kgBB dapat menurunkan kadar glukosa darah tikus diabetes mellitus secara bermakna ($p < 0,05$). Dengan demikian dapat disimpulkan bahwa air rebusan daun pletekan mempunyai efek hipoglikemik.

ABSTRACT

Diabetes mellitus was a disease caused by insulin deficiency which was marked by a hyperglycemic condition. In traditional medication, this disease is often treated with used boiled flesh of pletekan leaf (*Ruellia tuberosa* Linn.). The utilization is based on experience and it hasn't proved scientifically. Therefore, the research was done to get scientifically data and evidence about it.

This research was a pure experimental research with complete random design pattern using oral glucose tolerance test (OGTT) method. Twenty five white rats randomly divided into 5 groups. Group I (negative control) was given 25 ml/kgBW of water and group II (positive control) was given 0,45 mg/kg BW dose of glibenclamida. Group III was given with boiled flesh of pletekan leaf dose 0,441 g/kgBW, group IV was given with boiled flesh of pletekan leaf dose 0,882 g/kgBW, and group V was given with boiled flesh of pletekan leaf dose 1,764 g/kgBW. Blood glucose level was assayed with Glukosa oxidase p-aminophenazone (GOD-PAP) enzymatic method. The data of blood glucose level each sampling time on each group was statistically analyzed using split-plot design. Then, continued *Tukey* test with confidence interval 95%. Area under the curve (AUC^{0-240}) was analyzed by using *Kruskal-Wallis* and with *Mann-Whitney* non parametric statistic with confidence interval 95%. The result of this research is analyzed by measuring the accuracy, precision, selectivity, sensitivity, and linearity.

The result showed that the blood glucose level in the rat with diabetes mellitus can be decreased by the boile flesh of pletekan leaf (*Ruellia tuberosa* Linn.) dose 0,441 g/kgBW; 0,882 g/kgBW; and 1,764 g/kgBW significantly ($p < 0,05$). It can be concluded that the boiled flesh of pletekan leaf have hypoglycemic effect.