INTISARI

Pemakaian obat-obat yang berasal dari tanaman obat di Indonesia dewasa ini masih sulit untuk berkembang pesat seperti layaknya obat kimia. Kenyataan ini jauh berbeda jika kita bandingkan dengan pengembangan obat-obat tradisional di negeri Cina. Maka muncullah pemikiran untuk membuktikan kebenaran khasiat infusa batang brotowali sebagai obat diabetes mellitus, di mana brotowali cukup dikenal luas pemakaian dan penyebarannya di Asia Tenggara.

Penelitian ini merupakan penelitian eksperimental murni dengan rancangan acak lengkap pola searah dan menggunakan uji toleransi glukosa oral (UTGO). Tiga puluh lima ekor tikus dibagi ke dalam tujuh macam perlakuan. Pemberian suspensi CMC 1% 2 ml/100gBB sebagai kontrol negatif, pemberian suspensi tolbutamida 45 mg/kgBB sebagai kontrol positif dan kelompok I, II, III, IV dan V diberi perlakuan infusa batang brotowali dengan peringkat dosis 1 g/kgBB, 2 g/kgBB, 4 g/kgBB, 8 g/kgBB, dan 16 g/kgBB. Semua pemberian dilakukan secara per-oral. Kadar glukosa darah ditetapkan dengan metode enzimatik Glucose Oxidase p-aminophenazone (GOD-PAP). Data kadar glukosa darah pada tiap kelompok dianalisis secara statistik menggunakan metode *split-plot* dilanjutkan uji *Tukey* bertaraf kepercayaan 95%. Data Luas Daerah Di Bawah Kurva pada menit ke-0 sampai 300 (LDDK $^{0-300}$) diuji dengan *Kruskall-Wallis* dan dilanjutkan uji *Mann-Whitney* bertaraf kepercayaan 95%.

Hasil penelitian menunjukkan bahwa infusa batang brotowali dengan dosis 1 g/kgBB sampai 16 g/kgBB memberikan penurunan kadar glukosa darah sebesar 47,886% sampai 50,941%. Semua peringkat dosis tersebut memberikan efek penurunan kadar glukosa darah secara bermakna. Dengan demikian dapat disimpulkan bahwa infusa batang brotowali mempunyai efek hipoglikemi.

Kata kunci: batang brotowali, GOD-PAP, efek hipoglikemik, diabetes mellitus

ABSTRACT

The use of medicines that come from the medicinal plants in Indonesia recently still hard to grow progressively like the chemical medicines. This reality is very different if we compare to the development of traditional medicines in China. So come out the idea to proof the real benefit of bitter grape (*Tinospora crispa* (L) Miers.) stem in water extract as diabetes mellitus medicine, where bitter grape is quite vast known the usage and the spreading in South East Asia.

This research was performed following a pure experimental research with complete random design pattern using oral glucose tolerance test (OGTT). Thirty five (35) male rats divided into 7 groups of treatment. Group I was treated by suspention of CMC 1% 2 ml/100 gBB as negative control, group II was treated by tolbutamide 45 mg/kg BB as positive control, group III, IV, V, VI and VII were treated water extract of bitter grape stem with equivalent dosage 1 g/kg BW, 2 g/kg BW, 4 g/kg BW, 8 g/kg BW, and 16 g/kg BW, all the dispention were per os. Blood glucose level was assayed with Glucose Oxidase p-aminophenazone (GOD-PAP) enzymatic method. The data of blood glucose level from each sampling time on each group was statistically analyzed using *split-plot* design. Then continued with *Tukey* test with 95% level of convidence. Area Under The Curve from 0 minute until 300 minutes (AUC^{0-300}) was analyzed using *Kruskal-Wallis* and continued with *Mann-Whitney* test with 95% level of convidence.

The result indicated that bitter grape stem in water extract of 1 g/kgBW until 16 g/kgBB dosages decreased the concentration of blood glucose from 47,886% until 50,941%. All dosages level decreased the concentration of blood glucose significantly. Thus, it can be concluded that bitter grape stem in water extract has hypoglycaemic effect.

Keyword: bitter grape stem, GOD-PAP, hypoglycaemic effect, diabetes mellitus