

ABSTRAK

Hiperglikemia merupakan peningkatan kadar glukosa darah melebihi kadar normalnya dan sering menjadi tanda khas diabetes melitus. Daun tomat sayur diketahui mengandung senyawa metabolit sekunder berupa alkaloid, flavonoid, saponin dan terpenoid yang berpotensi sebagai agen antihiperglikemik. Penelitian ini bertujuan untuk mengevaluasi efek antihiperglikemik infusa daun tomat sayur pada mencit jantan galur *Swiss* yang diinduksi sukrosa menggunakan metode Uji Toleransi Glukosa Oral (UTGO). Penelitian ini merupakan eksperimental murni dengan rancangan acak lengkap dan pola searah. Sebanyak 30 ekor mencit dibagi secara acak ke dalam enam kelompok. Kelompok I sebagai kontrol negatif diberi *aquadest* dosis 25 g/kgBB. Kelompok II sebagai kontrol gula diberi sukrosa dosis 4 g/kgBB. Kelompok III sebagai kontrol positif diberi akarbosa dosis 40 mg/kgBB. Kelompok IV-VI adalah kelompok perlakuan infusa daun tomat sayur (IDTS) dengan dosis 833,3 mg/kgBB; 1666,6 mg/kgBB; dan 3333,2 mg/kgBB. Metode UTGO dilakukan dengan menginduksi sukrosa secara peroral pada mencit kelompok III-VI 30 menit setelah perlakuan. Pengukuran kadar gula darah dilakukan menggunakan glukometer pada menit ke-0 sebelum perlakuan serta menit ke-15, 30, 60, 90, dan 120 setelah perlakuan. Data dianalisis menggunakan uji *Shapiro-Wilk*, *One Way ANOVA* dan uji *Post-Hoc Bonferroni*. Hasil uji fitokimia menunjukkan bahwa infusa daun tomat sayur mengandung senyawa alkaloid, flavonoid, saponin dan terpenoid. Pemberian IDTS pada dosis 1666,6 mg/kgBB dan 3333,2 mg/kgBB memiliki efek antihiperglikemik.

Kata kunci: antihiperglikemik, infusa, daun tomat sayur, sukrosa, Uji Toleransi Glukosa Oral (UTGO)

ABSTRACT

Hyperglycemia is an increase in blood glucose levels above normal values and is commonly recognized as a characteristic sign of diabetes mellitus. Tomato leaves are known to contain secondary metabolites, including alkaloids, flavonoids, saponins, and terpenoids which have potential antihyperglycemic activity. This study aimed to evaluate the antihyperglycemic effect of tomato leaf infusion in sucrose-induced male Swiss mice using the Oral Glucose Tolerance Test (OGTT). This study was a true experimental study employing a completely randomized design with a unidirectional pattern. Thirty mice were randomly divided into six groups. Group I served as the negative control and received distilled water at a dose of 25 g/kgBW. Group II was the sugar control group and received sucrose at a dose of 4 g/kgBW. Group III was the positive control and received acarbose at a dose of 40 mg/kgBW. Groups IV-VI were treatment groups receiving tomato leaf infusion (IDTS) at doses of 833.3 mg/kgBW; 1666.6 mg/kgBW; and 3333.2 mg/kgBW. The OGTT was conducted by orally administering sucrose to mice in Groups III-VI 30 minutes after treatment. Blood glucose levels were measured using a glucometer at minute-0 before treatment, followed by measurements at 15, 30, 60, 90, and 120 minutes after treatment. Data were analyzed using the *Shapiro-Wilk* test, *One Way ANOVA*, followed by the *Post-Hoc Bonferroni* test. Phytochemical screening indicated that the tomato leaf infusion contained alkaloids, flavonoids, saponins, and terpenoids. Administration of IDTS at doses of 1666.6 mg/kgBW and 3333.2 mg/kgBW exhibited antihyperglycemic effects.

Keywords: antihyperglycemic, infusion, tomato leaves, sucrose, Oral Glucose Tolerance Test (OGTT).