

ABSTRAK

Hiperglikemia merupakan kondisi meningkatnya kadar glukosa darah. Tanaman tomat mengandung senyawa aktif yang bermanfaat dalam mengatasi masalah kesehatan, termasuk bagian daunnya. Penelitian ini memiliki tujuan dalam mengidentifikasi pengaruh pemberian dekokta daun tomat sayur (DDTS) untuk menurunkan kadar gula darah mencit jantan yang terbebani pati. Jenis penelitian ini termasuk eksperimental murni dengan rancangan acak lengkap pola searah. Metode yang digunakan adalah Uji Toleransi Gula Oral. Skrining fitokimia dilakukan secara kualitatif untuk mengetahui kandungan metabolit sekunder pada dekokta daun tomat sayur. Sebanyak 30 ekor mencit dibagi secara acak ke dalam enam kelompok. Kelompok (I) kontrol negatif menerima akuades, kelompok (II) kontrol gula diberikan pati dosis 3 g/kgBB, kelompok (III) kontrol positif menerima larutan akarbosa sebesar 40 mg/kg BB. Kelompok (IV, V, dan VI) kelompok perlakuan diberikan DDTS dengan tiga peringkat dosis, yakni 833,3 mg/kgBB; 1666,6 mg/kgBB; dan 3333,2 mg/kgBB. Pemberian pati diberikan secara peroral pada mencit kelompok III-VI, 30 menit setelah perlakuan. Kadar glukosa darah diukur pada menit ke-0 (sebelum diberikan perlakuan), menit ke-15, 30, 60, 90, dan 120. Hasil pengukuran kadar gula darah mencit dihitung nilai AUC_{0-120} dan dianalisis menggunakan uji *Shapiro-Wilk*, *One-Way ANOVA*, dan *Post-Hoc Bonferroni*. Skrining fitokimia menunjukkan DDTS mengandung flavonoid, alkaloid, saponin, dan terpenoid. Hasil penelitian menunjukkan bahwa ketiga dosis memberikan efek antihiperglikemik pada mencit jantan yang terbebani pati secara peroral.

Kata Kunci: daun tomat sayur, antihiperglikemi, dekokta, pati, mencit

ABSTRACT

Hyperglycemia is a condition characterized by elevated blood glucose levels. Tomato plants contain active compounds that are beneficial in treating health problems, including the leaves. This study aims to identify the effect of vegetable tomato leaf decoction (VTLD) on lowering blood sugar levels in male mice loaded with starch. This research used a true experimental study with a completely randomized one-way design. The method used is the Oral Sugar Tolerance Test. Phytochemical screening was conducted qualitatively to determine the secondary metabolite content in vegetable tomato leaf decoction. A total of 30 mice were randomly divided into six groups. Group (I) negative control received distilled water, group (II) sugar control was given a starch dose of 3 g/kgBW, and group (III) positive control received an acarbose solution of 40 mg/kgBW. Groups (IV, V, and VI) were the treatment groups and received DDTS at three dose levels, namely 833.3 mg/kgBW; 1666.6 mg/kgBW, and 3333.2 mg/kgBW. Starch was administered orally to mice in groups III-VI, 30 minutes after treatment. Blood glucose levels were measured at 0 (before treatment), 15, 30, 60, 90, and 120 minutes. The results of blood glucose measurements in mice were calculated using the AUC_{0-120} value and analyzed using the Shapiro-Wilk, One-Way ANOVA, and Post-Hoc Bonferroni test. Phytochemical screening showed that DDTS contained flavonoids, alkaloids, saponins, and terpenoids. The results showed that all three doses had antihyperglycemic effects on male mice loaded with oral starch.

Keywords: vegetable tomato leaf, antihyperglycemic, decoction, starch, mice