

ABSTRAK

Perkembangan pola hidup modern telah menyebabkan peningkatan prevalensi diabetes melitus (DM), yang ditandai oleh kondisi hiperglikemia. Penggunaan obat kimia dalam terapi farmakologi DM sering menimbulkan efek samping sehingga mendorong masyarakat untuk mulai mencari alternatif pengobatan berbasis bahan alam seperti tanaman tomat sayur. Penelitian ini bertujuan untuk menguji efek antihiperglikemik sediaan dekokta daun tomat sayur menggunakan metode Uji Toleransi Glukosa Oral (UTGO) pada mencit jantan yang diinduksi dengan glukosa. Penelitian ini merupakan penelitian eksperimental murni dengan rancangan acak lengkap pola searah. Pengujian fitokimia dilakukan pada tahap awal untuk mengetahui kandungan senyawa pada daun tomat sayur. Sebanyak 30 mencit dibagi secara acak ke dalam 6 kelompok perlakuan. Kelompok I diberikan kontrol negatif berupa aquadest dosis 25 g/kgBB. Kelompok II diberikan larutan glukosa dosis 2 g/kgBB. Kelompok III diberikan kontrol positif berupa larutan akarbosa dosis 40 mg/kgBB. Kelompok IV, V, dan VI diberikan 3 tingkat dosis dekokta daun tomat sayur, yaitu 833,333 mg/kgBB; 1666,667 mg/kgBB; dan 3333,333 mg/kgBB. Pengukuran kadar gula darah mencit dilakukan pada menit ke-0 (sebelum induksi glukosa) serta pada menit ke-15, 30, 60, 90, dan 120 setelah pemberian glukosa. Data yang diperoleh dianalisis secara statistik. Hasil pengujian fitokimia menunjukkan adanya senyawa flavonoid, alkaloid, dan saponin pada dekokta daun tomat sayur. Hasil penelitian menunjukkan bahwa sediaan dekokta daun tomat sayur dosis 1666,667 mg/kgBB dan 3333,333 mg/kgBB memiliki efek antihiperglikemik pada mencit jantan yang diinduksi dengan glukosa.

Kata Kunci: daun tomat sayur, dekokta, antihiperglikemia, mencit

ABSTRACT

The development of modern lifestyles has increased the prevalence of diabetes mellitus (DM), which is characterized by hyperglycemic conditions. The use of chemical drugs in the pharmacological treatment of DM often causes side effects, leading people to seek alternative treatments based on natural ingredients such as vegetable tomato plants. This study aimed to evaluate the antihyperglycemic effect of a decoction preparation of vegetable tomato leaves using the Oral Glucose Tolerance Test (OGTT) method in glucose-induced male mice. This study was a true experimental research with a completely randomized design in a one-way pattern. Phytochemical screening was conducted at the initial stage to identify the compounds present in vegetable tomato leaves. A total of 30 mice were randomly divided into six treatment groups. Group I received a negative control in the form of distilled water at a dose of 25 g/kg body weight. Group II received a glucose solution at a dose of 2 g/kg body weight. Group III received a positive control in the form of acarbose solution at a dose of 40 mg/kg body weight. Groups IV, V, and VI received three different doses of vegetable tomato leaf decoction, namely 833.333 mg/kg body weight, 1666.667 mg/kg body weight, and 3333.333 mg/kg body weight. Blood glucose levels in the mice were measured at minute 0 (before glucose induction) and at minutes 15, 30, 60, 90, and 120 after glucose administration. The obtained data were statistically analyzed. Phytochemical screening results showed the presence of flavonoids, alkaloids, and saponins in the vegetable tomato leaf decoction. The results indicated that the vegetable tomato leaf decoction preparation at doses of 1666.667 mg/kg body weight and 3333.333 mg/kg body weight exhibited antihyperglycemic effects in glucose-induced male mice.

Keywords: vegetable tomato leaves, decoction, antihyperglycemic, mice