INTISARI

Diabetes melitus merupakan penyakit kronis yang mempengaruhi jutaan orang di seluruh dunia sehingga terapi menggunakan pengobatan alternatif menjadi fokus penelitian penting. Salah satu tanaman di Indonesia dengan manfaat sebagai obat tradisional untuk pasien diabetes melitus adalah bayam duri (*Amaranthus spinosus*). Penelitian ini bersifat eksperimental, bertujuan melakukan uji kualitatif keberadaan golongan senyawa fenol dan flavonoid, pengujian aktivitas penangkapan radikal bebas, serta pengujian aktivitas antidiabetes dari senyawa potensial pada tanaman bayam duri secara *in vitro*.

Ekstraksi sampel pada penelitian ini menggunakan metode maserasi dengan etanol 70%. Hasil maserasi diuapkan dan ekstrak kental digunakan untuk pengujian flavonoid total, fenolik total, identifikasi keberadaan golongan senyawa dengan Kromatografi Lapis Tipis (KLT), uji aktivitas penangkapan radikal bebas 2,2-difenil-1-pikrilhidrazil (DPPH), dan uji aktivitas antidiabetes melalui penghambatan enzim α-glukosidase.

Hasil penelitian menunjukkan jumlah fenolik total sebesar 42,76 mg GAE/g dan flavonoid total 2,12 mg QE/g. Ekstrak tanaman bayam duri memberikan aktivitas penangkapan radikal bebas pada kategori sedang dengan nilai IC_{50} 207,84 µg/mL. Pengujian antidiabetes melalui metode penghambatan enzim α-glucosidase memberikan nilai persen inhibisi dibawah 50% sehingga nilai IC_{50} sampel tidak dapat ditentukan.

Kata kunci : Bayam Duri (*Amaranthus spinosus*), *a*-glukosidase, antioksidan, antidiabetes

ABSTRACT

Diabetes mellitus is a chronic disease that effects millions of people in the world, thus research on prevention using alternative medicine became an important thing to focus on. Spiny Pigweed (*Amaranthus spinosus*) is one of the plants in Indonesia that is empirically used as a traditional medicine for diabetes melitus patients. This research is experimental, aiming to conduct qualitative tests for the presence of routine compounds, test antioxidant activity, and test the antidiabetic activity of potential compounds in *Amaranthus spinosus* plants in vitro.

The research began with extraction by maceration using 70% ethanol. Macerate was evaporated and the thick extract was used to test for total flavonoids, total phenolics, identify the presence of flavonoid and phenolic compound groups with Thin Layer Chromatography (TLC), test 2,2-difenil-1-pikrilhidrazil (DPPH) free radical scavanging activity, and antidiabetic activity through inhibition of the α-glucosidase enzyme.

The results showed that the total phenolics were 42.76 mg GAE/g and the total flavonoids were 2.12 mg QE/g. Spiny pigweed plant extract provides free radical scavenging activity in the medium category with an IC_{50} value of 207.84 µg/mL. Antidiabetic testing using the α-glucosidase enzyme inhibition method gives a percent inhibition value below 50%, thus the IC_{50} value of the sample cannot be determined.

Keywords : Spiny Pigweed (*Amaranthus spinosus*), *a*-glucosidase, antioxidant, antidiabetic