PENGARUH PEMBERIAN BIJI MARKISA KUNING (*Passiflora edulis var. flavicarpa*) TERHADAP KADAR MALONDIALDEHID (MDA) TIKUS GALUR WISTAR DIABETIK

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ABSTRAK

Diabetes melitus (DM) merupakan kondisi kronis saat kadar glukosa darah meningkat (hiperglikemia) akibat tidak mampu memproduksi insulin atau kurangnya efektifitas fungsi insulin. Hiperglikemia menghasilkan radikal bebas yang menginduksi peroksidasi lipid dengan meningkatnya *Malondialdehyde* (MDA) sebagai parameter stres oksidatif. Biji markisa kuning (*Passiflora edulis var. flavicarpa*) mengandung flavonoid yang dapat berfungsi sebagai antioksidan untuk mencegah kerusakan jaringan. Tujuan penelitian ini adalah mengetahui pengaruh pemberian biji markisa kuning terhadap kadar MDA tikus galur Wistar diabetik. Penelitian ini merupakan eksperimental murni dengan desain post test only control group design. Sampel tikus jantan galur Wistar, usia 2-3 bulan, dengan berat 150-200 g, sebanyak 30 ekor, dibagi menjadi 6 kelompok. Kelompok 1 diberi pakan standar dan minum akuades, kelompok 2 diberi aloksan 125 mg, kelompok 3, diberi aloksan dan glibenklamid 0.45 mg, kelompok 4, 5, dan 6 diberi aloksan dan biji markisa kuning (100, 200, dan 400) mg semua kelompok dalam kg berat badan tikus. Perlakuan pemberian selama 14 hari, kemudian tikus dibius dengan ketamine xilazin, dan dibedah, darah ditampung dalam tabung EDTA, disentrifuge untuk memisahkan plasma dalam pemeriksaan MDA metode Wills menggunakan spektrofotometer dengan panjang gelombang 532 nm. Hasil uji One Way ANOVA menunjukkan terdapat pengaruh pemberian biji markisa kuning terhadap kadar MDA ($p = 0.000$). Hasil Uji Bonferroni menyatakan tidak terdapat perbedaan bermakna dengan kelompok glibenklamid ($p = 1.000$) artinya biji markisa kuning 400 mg/kgBB merupakan dosis paling efektif dalam penurunan kadar MDA yang hampir sama dengan glibenklamid.

Kata kunci: *Diabetes melitus, radikal bebas, biji markisa kuning, MDA.*

THE EFFECT OF YELLOW MARQUEST SEED (Passiflora edulis var. flavicarpa) ON MALONDIALADEHYD (MDA) LEVELS IN DIABETIC WISTAR STRAINING RATS

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ABSTRACT

Diabetes mellitus (DM) is a chronic condition when blood glucose levels increase (hyperglycemia) because the body is unable to produce enough insulin or lack of effective insulin function. Hyperglycemia produces free radicals that induce lipid peroxidation with increasing *Malondialdehyde* (MDA) as a parameter of oxidative stress. Yellow passion fruit seeds (*Passiflora edulis var. flavicarpa*) contain flavonoids that can function as antioxidants in preventing tissue damage. The purpose of this study was to determine the effect of giving yellow passion fruit seeds on MDA levels of diabetic Wistar rats. This research is a true experimental with post test only control group design. Samples of male Wistar rats, aged 2-3 months, weighing 150-200 g, totaling 30 rats, were divided into 6 groups. Group 1 was given standard feed and drink (Normal Control), group 2 was given alloxan 125 mg/kgBW (Negative Control), group 3 was given alloxan and glibenclamide 0.45 mg/kgBW (Positive Control), groups 4, 5, and 6 were given alloxan and yellow passion fruit seeds (100, 200, and 400) mg/kgBW. The treatment was given for 14 days, then the rats were anesthetized with ketamine xylazine, and dissected, the blood was collected in an EDTA tube, centrifuged to separate the plasma in the Wills MDA examination method using a spectrophotometer with a wavelength of 532 nm. The results of the One Way ANOVA test showed that there was an effect of giving yellow passion fruit seeds on MDA levels ($p = 0.000$). The results of the Bonferroni test stated that there was no significant difference with the glibenclamide group ($p = 1,000$), meaning that 400 mg/kg BW yellow passion fruit seeds was the most effective dose in reducing MDA levels, which was almost the same as glibenclamide.

Keywords: *Diabetes mellitus, free radical, yellow passion fruit seeds, MDA.*