

ABSTRAK

EFEK PERASAN DAUN KELOR (*Moringa oleifera* Lam.) TERHADAP GAMBARAN DARAH TIKUS WISTAR (*Rattus norvegicus*) YANG MENGALAMI DIABETES MELITUS

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Diabetes merupakan suatu penyakit yang ditandai oleh peningkatan kadar glukosa darah. Tanaman kelor (*Moringa oleifera* Lam.) memiliki banyak manfaat dan dipercaya dapat mengobati diabetes karena mampu menurunkan kadar glukosa darah. Penelitian ini dilakukan untuk mengetahui efek perasan daun kelor terhadap gambaran darah tikus yang mengalami diabetes dengan injeksi Streptozotocin (STZ).

Hewan coba yang digunakan adalah 20 ekor tikus Wistar jantan dengan berat 180-220 gram dan dibagi menjadi empat kelompok. Tikus kelompok I diinjeksi STZ dan diberi 1 mL perasan daun kelor dosis 90 mg/kg BB/hari/peroral (PO). Kelompok II diinjeksi STZ dan diberi 1 mL akuades/ekor/hari/PO. Kelompok III diberi 1 mL perasan daun kelor dosis 90 mg/kg BB/hari/PO dan kelompok IV diberi akuades 1 mL/ekor/hari/PO. Perlakuan diberikan selama 36 hari dan pada akhir penelitian, darah dikoleksi untuk dilakukan penghitungan jumlah eritrosit, kadar hemoglobin (Hb), nilai *packed cell volume* (PCV), *mean corpuscular volume* (MCV), *mean corpuscular hemoglobin* (MCH), *mean corpuscular hemoglobin concentration* (MCHC), jumlah trombosit dan pembuatan preparat apus darah. Hasil kemudian dianalisis menggunakan *one-way ANOVA* dengan kepercayaan 95%.

Hasil analisis jumlah eritrosit, kadar Hb, nilai PCV, MCV, MCH, MCHC, dan jumlah trombosit menunjukkan hasil yang tidak signifikan ($p\text{-value} > 0,05$). Morfologi eritrosit kelompok I menunjukkan anisositosis, poikilositosis dan anulosit. Kelompok II menunjukkan adanya anisositosis, poikilositosis, anulosit, dan agregasi eritrosit. Kelompok III menunjukkan adanya anisositosis, poikilositosis, anulosit, dan agregasi trombosit. Kelompok IV memiliki morfologi eritrosit yang normal. Disimpulkan bahwa, perasan daun kelor dosis 90 mg/kg BB/ekor/hari selama 36 hari tidak memberi pengaruh yang signifikan terhadap gambaran darah tikus penderita diabetes melitus.

Kata kunci: diabetes, streptozotocin, tikus Wistar, *Moringa oleifera* Lam., gambaran darah

ABSTRACT

EFFECT OF KELOR (*Moringa oleifera* Lam.) LEAVES JUICE ON BLOOD PARAMETERS OF DIABETIC WISTAR RATS (*Rattus norvegicus*)

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Diabetes is a disease characterized by an increase in blood glucose level. Kelor plant (*Moringa oleifera* Lam.) has many benefits and is believed to be able to treat diabetes because it can reduce blood glucose levels. This study was conducted to determine the effect of kelor leaf juice on the blood parameters of diabetic Wistar rats by Streptozotocin (STZ) injection.

The experimental animals used were 20 male Wistar rats weighing 180-220 grams and divided into four groups. Group I rats were injected with STZ and were given 1 mL of kelor leaf juice at dose of 90 mg/kg BB/day/peroral (PO). Group II was injected with STZ and given 1 mL of aquades/rat/day/PO. Group III was given 1 mL of Moringa leaf juice at dose of 90 mg/kg BB/day/PO and group IV was given 1 mL aquades/rat/day/PO. Treatment was carried out for 36 days and at the end of the study, blood were collected to calculate erythrocyte count, hemoglobin level (Hb), packed cell volume (PCV), mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH), mean corpuscular hemoglobin concentration (MCHC), platelet count and preparation of blood smear. The results were then analyzed using one-way ANOVA with 95% confidence.

The analysis of the number of erythrocytes, Hb levels, PCV, MCV, MCH, MCHC and platelet counts showed insignificant results ($p\text{-value} > 0.05$). Erythrocyte morphology of group I shows anisocytosis, poikilocytosis and anulocytes. Group II showed anisocytosis, poikilocytosis, anulocytes, and erythrocyte aggregation. Group III showed anisocytosis, poikilocytosis, anulocytes, and platelet aggregation. Group IV has normal erythrocyte morphology. Thus, there was no significant effect of giving Moringa leaf juice at a dose of 90 mg/kg body weight/rat/day for 36 days on blood parameters of diabetic rats.

Keywords: diabetes, streptozotocin, Wistar rats, *Moringa oleifera* Lam., blood profile