

**PENGARUH SARI BUAH MARKISA UNGU (*Passiflora edulis var edulis*)  
TERHADAP KADAR SUPEROKSIDA DISMUTASE TIKUS PUTIH  
(*Rattus norvegicus*) MODEL DIABETES MELITUS**

**ABSTRAK**

**Latar Belakang:** Diabetes melitus (DM) merupakan suatu kelompok penyakit yang ditandai dengan hiperglikemia akibat gangguan sekresi, kerja insulin, atau keduanya. Hiperglikemia menyebabkan stres oksidatif dan menurunkan kadar superoksida dismutase (SOD) sebagai antioksidan alami tubuh. Sari buah markisa ungu (*Passiflora edulis var edulis*) mengandung serat, flavonoid, vitamin C, dan karoten yang mempunyai potensi antihiperglikemia dan antioksidasi.

**Tujuan:** Untuk mengetahui perbedaan rerata kadar SOD tikus model DM antara yang mendapatkan dan tidak mendapatkan sari buah markisa ungu.

**Metode:** Penelitian eksperimental dengan desain *post test only with control group*. Dua puluh lima ekor tikus putih dibagi dalam 5 kelompok. Kelompok A sebagai kontrol sehat, kelompok B sebagai kontrol sakit, kelompok C, D, dan E adalah kelompok model DM yang mendapatkan sari buah markisa ungu per oral dengan dosis: 1,05 mL/200gBB, 2,1 mL/200gBB, dan 4,2 mL/200gBB selama 21 hari. Kadar SOD diukur dengan metode Spektrofotometri Ransod.

**Hasil:** Rerata kadar SOD kelompok A=42,31 ± 3,15; B=26,25 ± 1,12; C=32,57 ± 0,79; D=41,29±1,96; E=43,03±3,51. Hasil uji *One Way ANOVA* kadar SOD menunjukkan nilai  $p=0,000$  ( $p>0,05$ ). Hasil *post hoc LSD* menunjukkan perbedaan rerata signifikan antara kelompok A dengan B dan C, serta kelompok B dan C dengan semua kelompok data ( $p<0,05$ ).

**Kesimpulan:** Terdapat perbedaan bermakna kadar SOD kelompok tikus model DM antara yang mendapatkan dan tidak mendapatkan sari buah markisa ungu.

**Kata Kunci:** Diabetes melitus, kadar superoksida dismutase, sari buah markisa ungu (*Passiflora edulis var edulis*)

**THE EFFECT OF PURPLE PASSION FRUIT (*Passiflora edulis var edulis*)  
JUICE ON THE SUPEROXIDE DISMUTASE LEVEL OF DIABETES  
MELLITUS MODEL RATS (*Rattus norvegicus*)**

**ABSTRACT**

**Background:** Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia that caused by defects in insulin secretion, insulin action, or both. Hyperglycemia causes oxidative stress and decreases superoxide dismutase (SOD) level as natural antioxidant in body. Purple passion fruit juice (*Passiflora edulis var edulis*) contains fiber, flavonoid, vitamin C, and carotenoid with antihyperglycemia and antioxidative effects.

**Aim:** To study the difference in the SOD level of DM model rats between groups with and without purple passion fruit juice treatment.

**Methods:** Experimental study with post test only with control group design. Twenty five of white rats were randomly assigned to 5 groups. Group A as normal control, group B as disease control, group C, D, and E as DM model groups and orally administered with purple passion fruit juice at dosage of 1.05 mL/200gBW, 2.1 mL/200gBW, and 4.2 mL/200gBW, consecutively, for 21 days. SOD levels were measured by Ransod Spectrophotometry.

**Results:** The mean result of SOD level in group A=42.31±3.15; B=26.25±1.12; C=32.57±0.79; D=41.29±1.96; E=43.03±3.51. One way ANOVA test showed p value=0.000 (p<0.05). The post hoc LSD showed significant mean differences between group A and B, group A and C, and between group B as well as group C and all other groups (p<0.05).

**Conclusions:** There was significant difference in the SOD level of DM model rats between groups with and without purple passion fruit juice treatment.

**Keywords:** Diabetes mellitus, purple passion fruit juice, superoxide dismutase level