

ABSTRAK

PENGARUH SEDUHAN BIJI RAMBUTAN (*Nephelium lappaceum L.*) YANG DIFERMENTASI DENGAN YOGURT TERHADAP KADAR SUPEROXIDE DISMUTASE (SOD) PADA TIKUS WISTAR (*Rattus norvegicus*) YANG DIINDUKSI OLEH STREPTOZOTOCIN (STZ)

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Latar Belakang: Stres oksidatif akibat kelebihan radikal sangat berpengaruh dalam perkembangan penyakit degeneratif dan berkaitan dengan penurunan aktivitas antioksidan endogen seperti SOD. Biji rambutan berpotensi sebagai sumber antioksidan eksogen alami. Penelitian ini bertujuan mengetahui pengaruh seduhan biji rambutan yang difermentasi dengan yogurt terhadap kadar SOD pada tikus wistar yang diinduksi STZ.

Metodologi: Penelitian ini menggunakan desain true experimental dengan pre-test post-test control group. Sampel 35 ekor tikus wistar yang dibagi secara acak menjadi 7 kelompok. Kontrol sehat, kontrol negatif, empat kelompok perlakuan seduhan fermentasi biji rambutan (0, 3, 5, 7 hari), serta kontrol positif. Perlakuan pemberian seduhan biji rambutan diberikan selama 14 hari. Kadar SOD diukur menggunakan spektrofotometer pada panjang gelombang 520 nm. Analisis data dilakukan dengan One Way ANOVA dan uji post Hoc Duncan.

Hasil: Hasil pre-test menunjukkan perbedaan kadar SOD yang signifikan antar kelompok ($p < 0,05$). Namun, pada pengukuran post-test tidak ditemukan perbedaan kadar SOD yang bermakna ($p > 0,05$). Analisis selisih kadar SOD pre-test dan post-test juga tidak menunjukkan perbedaan signifikan antar kelompok. Namun, secara deskriptif terdapat kecenderungan peningkatan kadar SOD, terutama pada kelompok fermentasi 7 hari.

Kesimpulan: Secara statistik, hasil kadar SOD dari seduhan fermentasi biji rambutan tidak terdapat perbedaan signifikan, meskipun secara deskriptif terdapat tren peningkatan pada kelompok fermentasi selama 7 hari. Namun, penelitian selanjutnya perlu diperhatikan terkait variasi dosis, durasi dan parameter pengganggu lainnya.

Kata Kunci: Biji rambutan (*Nephelium lappaceum L.*), Kadar Superoksida dismutase, Tikus Wistar.

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ABSTRACT

THE EFFECT OF FERMENTATION RAMBUTAN SEEDS (*Nephelium lappaceum* L.) INFUSION WITH YOGURT ON SUPEROXIDE DISMUTASE (SOD) LEVELS IN WISTAR RATS (*Rattus norvegicus*) INDUCED BY STREPTOZOTOCIN (STZ)

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Background: Oxidative stress caused by excess radicals greatly influences the development of degenerative diseases and is associated with a decrease in endogenous antioxidant activity such as SOD. Rambutan seeds have the potential to be a source of natural exogenous antioxidants. This study aims to determine the effect of fermented rambutan seed infusion with yogurt on SOD levels in STZ-induced Wistar rats.

Methodology: This study used a true experimental design with pre-test and post-test control groups. The sample consisted of 35 Wistar rats randomly divided into 7 groups. The groups included a healthy control group, a negative control group, four treatment groups of fermented rambutan seed infusion (0, 3, 5, 7 days), and a positive control group. The treatment of soaking rambutan seeds was given for 14 days. SOD levels were measured using a spectrophotometer at a wavelength of 520 nm. Data analysis was performed using One Way ANOVA and Duncan's post hoc test.

Result: Pre-test results showed significant differences in SOD levels between groups ($p < 0.05$). However, post-test measurements showed no significant differences in SOD levels ($p > 0.05$). Analysis of the difference in pre-test and post-test SOD levels also showed no significant differences between groups. However, descriptively, there was an increase in SOD levels, especially in the 7-day fermentation group.

Conclusion: Statistically, there was no significant difference in SOD levels from fermented rambutan seeds, although descriptively there was an upward trend in the 7-day fermentation group. However, further research is needed regarding variations in dosage, duration, and other confounding parameters.

Keywords: Rambutan Seeds (*Nephelium lappaceum* L.), Superoxide dismutase levels, Wistar Rats.

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