

ABSTRACT

Nur Halimatul Zahro. 24020122140159. **The Effect of Black Rice Extract (*Oryza sativa* var. *indica*) on Liver Histopathology of Hypercholesterolemic Wistar Strain White Rats (*Rattus norvegicus*).** Supervised by Sri Isdadiyanto and Rizki Sandhi Titisari.

Hypercholesterolemia is a condition of increased blood cholesterol levels affecting approximately 28.8% of Indonesia's population and potentially causes hepatic damage through oxidative stress. Previous studies had investigated the effects of black rice anthocyanins on lipid profiles, but none had specifically evaluated their impact on hepatic histological structure quantitatively and qualitatively. The novelty of this study is the use of black rice extract (*Oryza sativa* var. *indica*) as a hepatoprotective agent in a hypercholesterolemia rat model, assessed through histomorphometric parameters namely Hepatosomatic Index (HSI), hepatocyte diameter, and central vein diameter. This study aimed to analyze the effect of black rice extract on liver histopathology of hypercholesterolemic Wistar rats (*Rattus norvegicus*). A Completely Randomized Design with 6 treatment groups (n=4) was used, comprising normal control, negative control, positive control (simvastatin 20 mg/kgBW), and three black rice extract doses of 50, 100, and 200 mg/kgBW for 30 days. Data were analyzed using ANOVA followed by Tukey's test. HSI showed no significant difference between treatments ($p=0.696$), while hepatocyte diameter, central vein diameter, and histological damage scoring showed significant differences ($p<0.05$). Black rice extract (*Oryza sativa* var. *indica*) affects liver histopathology in hypercholesterolemic rats, as indicated by decreased hepatocyte and central vein diameters approaching normal conditions, although it does not significantly affect HSI.

Keywords: hypercholesterolemia, black rice, anthocyanin, histology.