

ABSTRACT

Fathikah Nur Alifah. 24020121120008. Leukocyte, Neutrophil and Lymphocyte Counts in Female Wistar Rats (*Rattus norvegicus* L.) After Exposure to *Polyethylene Terephthalate* (PET) Microplastics. Under the guidance of Agung Janika Sitaswi and Silvana Tana.

The increase in plastic waste pollution in Indonesia has threatened the ecosystem and health of living things. Plastic waste pollution in Indonesia has threatened the ecosystem and health of living things. Microplastics are plastics that degrade into small particles less than 5 mm. *Polyethylene Terephthalate* was one type of plastic that was widely used in beverage bottles. Exposure to PET microplastics on the number of leukocytes, neutrophils and lymphocytes in the blood of female Wistar rats had not been widely studied or published. This study aimed to analyze the exposure of PET microplastics on the number of leukocytes, neutrophils, and lymphocytes of female Wistar rats. This study was conducted for 24 days under subchronic conditions and used 20 Wistar rats. The treatments in this study included control (P0), low dose treatment (P1) with a microplastic dose of 0.005 mg/2 mL/day, medium dose treatment (P2) with a microplastic dose of 0.05 mg/2 mL/day, and high dose treatment (P3) with a microplastic dose of 0.25 mg/2 mL/day. Blood sampling was performed intracardially through the heart and the number of leukocytes, neutrophils and lymphocytes were measured using a *Hematology Analyzer*. The results of the study showed that all variables were not significant difference between the control treatment and the treatment doses of 0.005 mg/2 mL/day, 0.05 mg/2 mL/day, and 0.25 mg/2 mL/day. The conclusion of this study was that exposure to *Polyethylene Terephthalate* (PET) microplastics did not interfere with the hematopoiesis process of female rats (*Rattus norvegicus* L.) of the Wistar strain.

Keywords: *PET, leukocytes, neutrophils, lymphocytes, Wistar rats*