

**ANTIOXIDANT EFFECT OF CINNAMON OIL (*CINNAMOMUM BURMANNII*) TOWARD THE DIAMETER OF SEMINIFEROUS TUBULE AND THE NUMBER OF LEYDIG CELL OF MALE RATS (*RATTUS NORVEGICUS*) INDUCED WITH STREPTOZOTOCIN**

Yolanda Ayu Safitri

**ABSTRACT**

The purpose of this study was to determine the effect of cinnamon oil (*Cinnamomum burmannii*) on the diameter of seminiferous tubules and the number of Leydig cells in the testes of white rats (*Rattus norvegicus*) which have been induced by streptozotocin. Twenty Wistar strain adult male white rats (*Rattus norvegicus*) aged 2-3 months with an average weight of 150-250 grams were divided into five experimental groups (4 mice each group) were treated with a combination of streptozotocin and cinnamon essential oil (*Cinnamomum burmannii*) that were designed as follows: (K-) without Streptozotocin, K (+), P1, P2, and P3 are injected with streptozotocin at a single dose of 45 mg / kg BW intraperitoneally which is continued with therapy. Treatments K (-) and K (+) were given a drug solvent, P1 was treated with cinnamon essential oil 100 mg / kgBB, P2 was treated with 200 mg / kgBB cinnamon essential oil, P3 was treated with 400 mg / kg cinnamon essential oil orally for 14 days, and then all rats were euthanized. The testicular organs were collected to be used as histopathological preparations using HE staining, then the diameter of the seminiferous tubules and the number of Leydig cells were calculated. Data were analyzed with One Way ANOVA and followed by Duncan's test. The results showed that streptozotocin had the potential to reduce the size of the seminiferous tubule diameter and the number of Leydig cells, while cinnamon oil at a dose of 400 mg / kgBW could increase the size of the seminiferous tubule diameter and the number of Leydig cells.

**Key words:** Cinnamon oil, Diameter of seminiferous tubule, Leydig cell, Streptozotocin, White rats (*Rattus norvegicus*)