

ABSTRACT

THE EFFECT OF JAVANESE GINSENG (*Talinum paniculatum*, Gaertn)
ROOT EXTRACT ADMINISTRATION ON SPERM QUANTITY AND QUALITY
IN ESTROGEN-ADMINISTERED MALE MICE
(*Mus musculus*)

The administration of Javanese ginseng root extract is expected to enhance the regeneration process of spermatogenic cells in the testis, due to the presence of saponin in the plant that plays a role in protein synthesis to produce new proteins, so that spermatogenesis is enhanced and produces spermatozoa with normal morphology and normal type A motility. The objective of this study was to prove the influence of Javanese ginseng root extract administration in maintaining spermatogenic cell count, spermatozoa morphology and motility in estrogen receiving male mice.

This study was an experimental laboratory study using complete randomized design. The experimental units comprised male mice with bodyweight of 25 - 30 gr with sample size was 8 male mice in each group. The five treatment groups were given with Javanese ginseng root extract for 27 days with three variants of administered dose, i.e., treatment group (K₂) with the dose of 0.49 mg/10 gr BW, treatment group (K₃) with 0.98 mg/10 gr BW, and treatment group (K₄) with 1.47 mg/10 gr BW, and given also with estrogen of 0.56 µg/20 gr BW for ten days. After the treatment was accomplished, the spermatozoa motility was observed using microscope in 400 times magnification and the percentage was estimated (Suhadi, 1929). Testis histological preparation was made to observe and count the spermatogonium, primary spermatocyte and spermatid. In the observation of spermatogenic cell count using one-way Anova, a significant difference ($p < 0.05$) was found in spermatogenic cell counts among the five male mice groups. In the observation of spermatozoa count with normal morphology using t test, it was found a significance level of < 0.05 , showing significant difference in treatment groups. In the observation of spermatozoa count with type A motility using t test, it was apparent that the administration of Javanese ginseng root extract had a significant effect on spermatozoa count with type A motility, which increased more than that in control group (K₀).

In conclusion, the administration of Javanese ginseng root extract in three variants of administered dose can increase the number of spermatogenic cells and increase significantly the percentage of spermatozoa with normal morphology and type A motility.

Keywords: Javanese ginseng root extract, spermatozoa quantity and quality