ABSTRACT

EFFECT OF 96% ETHANOL FRACTION AND ISOLATE KORO BENGUK (*Mucuna pruriens L.*) SEED ON SPERMATOZOA QUALITY OF 2-METHOXYETHANOL-EXPOSED MICE (*Mus musculus*)

Infertility incidence is increasing in the last 40 years. Approximately 10-15% of population are infertile. Based on previous study, active ingredient of *Mucuna pruriens* L. or koro benguk (*Papilionaceae*), the L-dopa, may affect the quality of spermatozoa. The objective of this research was to study the effect of 96% ethanol fraction and *M. pruriens* seed isolate on spermatozoa quality of mice exposed to 2-Methoxyethanol. L-dopa in 96% ethanol fraction of *M. pruriens* seed was 14.7%, while that in the isolate was 56.57%.

This was an experimental study using complete randomized design. Subjects were BALB/C mice (*Mus musculus*), consisting of 11 groups. Five groups served as control, 3 groups received subcutaneos injection of 2-ME fraction as much as 100 mg/kg.bw/day for 12 days, followed with 96% ethanol fraction starting from 14 mg/kg.bw/day, 28 mg/kg.bw/day, and 56 mg/kg.bw/day for 51 days, and 3 groups served as isolate treatment group that received subcutaneous injection of 2-ME of 100 mg/kg.bw.day for 12 days, followed with isolate starting from 1.4 mg/kg.bw/days, 2.8 mg/kg.bw/days, and 5.6 mg/kg.bw/days for 51 days. The final observation was conducted by counting spermatozoa count, motility speed, spermatozoa viability, and percentage of normal spermatozoa morphology.

The result of this study showed that 96% ethanol fraction and the isolate of *M. pruriens* seeds are able to increase motility speed, the percentage of spermatozoa viability, and the percentage of normal spermatozoa morphology in mice exposed to 2-ME ($p < 0.05$).

Keywords: *Mucuna pruriens* L. , L-dopa, mouse spermatozoa.