

**THE POTENTIAL OF POMEGRANATE (*Punica granatul l*) FRUIT
EXTRACT FOR THE QUALITY WHITE RAT (*Rattus norvegicus*)
SPERMATOZOA EXPOSED TO HEAT**

Nucifera Fadhillah Santoso

ABSTRACT

The purpose of this research was to determine the effect of pomegranate (*Punica granatul l*) fruit extract for spermatozoa quality including the motility, viability and membrane integrity of spermatozoa. The research used 20 male white rats (*Rattus norvegicus*) with 200-300 gram average body weight. P0 as control was given with CMC Na 0.5%. P1 used 75 mg/kg BW dose of extract, P2 used 150 mg/kg BW dose of extract, P3 used 300 mg/kg BW dose of extract. The treatment was given perorally for 14 days. The experiment was used completely random design (CRD). The result of this study was analyzed with ANOVA followed by Tukey Test ($p < 0.05$). The result showed that there was significant effect from therapy on the quality of rats spermatozoa. The difference of spermatozoa's concentration between first treatment group P1 and control treatment group is not significant, while the treatment other result showed between the second treatment group and the control group P0. A significant difference occurs in the percentage of motility, viability and membrane integrity. The treatment from P2 group showed the best result in maintaining the quality of rats spermatozoa.

Key words: Spermatozoa, pomegranate fruit extract, motility, viability, and membrane integrity