

ABSTRACT

THE EFFECT OF THE MERCURY LAMP EXPOSURE TO THE MOTILITY AND VIABILITY OF MALE MICE'S SPERM (*Mus musculus* L)

By

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Mercury lamp is widespread used in many places as a lighting lamp and as one of sources of electromagnetic radiation that can decrease the quality of the sperms. The purpose of this research is to knowing the effect of mercury lamp exposure over the motility and viability of the male mice's sperm. The design that was used in this research was experimental with randomized block design. The subject of this research using 20 male mice that were divided randomly into five groups of treatment that were K (control), P1 (were given mercury lamp exposure for 4 hours), P2 (were given mercury lamp exposure for 8 hours), P3 (were given mercury lamp exposure for 12 hours), P4 (were given mercury lamp exposure for 16 hours). The exposure done for 28 days. Mean result percentage of motility of sperm obtained K = $52,6 \pm 7,74$, P1 = $25,3 \pm 8,3$, P2 = $20,4 \pm 10,2$, P3 = $22,4 \pm 7,6$, P4 = $30,9 \pm 8,7$, and mean result percentage of viability of sperm obtained K = $52,6 \pm 7,74$, P1 = $25,3 \pm 8,3$, P2 = $20,4 \pm 10,2$, P3 = $22,4 \pm 7,6$, P4 = $30,9 \pm 8,7$. Analysis of data used one way anova test that showed there was differences in groups with p value = 0,01 ($p < 0,05$) for motility and p value = 0,019 ($p < 0,05$) for viability then continued by analysis of post hoc test showed the result that were meaningful between control and groups of treatment ($p < 0,05$) for both of motility and viability of sperm. It is showed that the exposure of mercury lamp impact on motility and viability of sperm.

Keywords : mercury lamp, motility, viability, mice.