ABSTRACT

THE EFFECT OF GIVING EXTRACT BLACK PEPPER (*Piper nigrum* L) AND ZINC (Zn) TO THE MOTILITY, AMOUNT AND SPERM MORPHOLOGY WHITE RATS (*Rattus norvegicus*) MALE WISTAR STRAIN

DYAH GABY KESUMA

Infertility in men in Indonesia is an issue that needs serious attention, as it reaches a sizeable percentage, which is about 40-60%. The purpose of this study was to determine the effect of extract of black pepper (*Piper nigrum L*) and Zn on the number, motility and morphology of spermatozoa white rats (*Rattus norvegicus*) male wistar strain.

Subjects of this study use 24 adult male white rats wistar strain were randomly divided into 4 groups: K given 1,2 ml of distilled water, black pepper extract P1 given 122,5 mg / kg / day, given P2 black pepper extract 122, 5 mg / kg / day and ZnSO4 1 mg / kg / day and given P3 black pepper extract 245 mg / kg / day and ZnSO4 1 mg / kg / day. The research carried out for 8 days.

Results obtained after administration of the extract of black pepper (*Piper nigrum* L) and Zn significant difference occurred in the control group with the treatment. In motility showed a significant ($p < 0.05$) and the mean difference occurred with the K (59,16±24,21%) P1 (67,83±32,59%), P2 (84,17±10,87%) and P3 (94,50±6,12%). On the amount of spermatozoa showed a significant ($p < 0.05$) and the mean difference occurred with the result K (8.13 ± 3.34 million / ml), P1 (9.81 ± 7.27 million / ml), P2 (12 , 13 ± 7.07 million / ml) and P3 (24.36 ± 6.03 million / ml) and morphology of spermatozoa results also showed a significant ($p < 0.05$) and also there is a discrepancy with the results mean K (51,33±21,68%), P1 (72,50±19,27%), P2 (84,16±13,30%) and P3 (85,83±18,53%). It can be presumed that piperine in black pepper extract and Zn work synergistically to increase testosterone in the testis.

It can be concluded that the extract of black pepper and Seng (Zn) significantly affect the motility, number and morphology of normal spermatozoa treated compared to control. It is recommended to conduct further studies of the effects toxicity the extract black pepper and Zn.

Keywords: infertility, *Piper nigrum* L, Zinc (Zn), spermatozoa, male rat