ABSTRACT

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Piperine in black pepper extract (*Piper nigrum* L) is known to increase testosterone in serum and testes. Zinc (Zn) play a role in production, storage and secretion of testosterone. Zn is very important because it is found in every tissue and directly involved in cell division. The purpose of this study was to determine the effect of a mixture of black pepper (*Piper nigrum* L) extract and zinc (Zn) to increase the number of primary spermatocytes and spermatids in the seminiferous tubules of male rats testes.

Twenty four wistar male rats were divided into 4 groups. The control group received 1,2ml of distilled water, P1 received 122.5mg/kg/day black pepper extract, P2 received 122.5mg/kg/day black pepper extract and 1mg/kg/day ZnSO4, P3 received 245mg/kg/day black pepper extract and 1mg/kg/day ZnSO4. Treatment is given for 8 days. The results showed that black pepper extract and Zn can lead to significant differences with $p<0.05$ for the number of spermatocytes between the control group (61,56±8,69), P1 (63,00±7,51), P2 (67,56±9,55) and P3 (71,78±5,58) and the number of spermatids between the control group (78,67±32,87), P1 (128,00±10,77), P2 (128,78±24,06) and P3 (143,89±18,68).

It was concluded that the administration of a mixture black pepper (*Piper nigrum* L) extract and zinc (Zn) affect more significantly increased on total primary spermatocytes and spermatids cell in seminiferous tubules of the testes.

Keywords: black pepper (*Piper nigrum* L) extract, zinc, primary spermatocytes, spermatids, male rat