

ABSTRACT

THE EFFECT OF BLACK CUMIN (*Nigella sativa* L.) EXTRACT TO THE WHITE RAT (*Rattus norvegicus*) SPERMATOGENIC CELL COUNT INDUCED GENTAMICIN

By

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Gentamicin is an antibiotic which is used for serious infections from gram-negative bacteria but it has a toxic effect on the testes of rat. Black cumin is considered to provide a protective effect due to the antioxidant content in it. This study aim to determined the effect of black cumin (*Nigella sativa* L.) extracts to the white rat (*Rattus norvegicus*) spermatogenic cell count induced gentamicin.

This study was an experimental research method posttest only with control group designed using 30 Sprague Dawley rats were divided into five groups. Normal control group (K1) which only given aquadest orally, negative control group (K2) which only given gentamicin 80mg/kg Body Weight (BW) intraperitoneally for eight days, and two days later, followed by the administration of aquadest, while the other three treatment groups were given gentamicin 80mg/kgBW intraperitoneally for eight days and added by extracts of black cumin

500mg/kgBW (K3), 1000mg/kgBW (K4) and 1500mg/kgBW (K5) which given orally for ten days. After treatment, the testicular histology preparations made with Haematoxilin Eosin staining. Histological changes will be observed by counting the number of spermatogenic cells with a magnification of 400 times in nine tubules per treatment.

The results showed K1 ($336,56 \pm 33,96$), K2 ($295,00 \pm 70,51$), K3 ($306,78 \pm 49,27$), K4 ($309,78 \pm 31,22$), and K5 ($287,89 \pm 27,38$). However, from the analysis of the result showed that the obtained results were not significant with $p=0.195$ ($p > 0.5$). The conclusion of the study is statistically no influence on black cumin extracts to white rat spermatogenic cells count induced gentamicin, but the effect was seen in clinically.

Keywords: Antibiotic, *Nigella sativa* L., Protective, Toxicity