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Anti-secretory and anti-ulcerative effect of ethyl acetate fraction of *Nigella sativa* (L.) seed extract in rats

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The present work was carried out to investigate the possible effects of ethyl acetate seed fraction of *Nigella sativa* on gastric ulcers and basal gastric secretions using the NSAID-induced model. Phytochemical screening revealed the presence of flavonoids, alkaloids, saponins, glucocinolates amongst others, whereas acute toxicity studies revealed a median lethal dose above 5000 mg/kg. The rats were grouped into 6 (n=5), with the extract fraction administered at 50, 100 and 200 mg/kg subcutaneously, followed by pyloric ligation with indomethacin and cimetidine used as the standard drug. For the mucosal integrity study, ulcer and preventive indices were analyzed, while volume of gastric juice, titratable acidity, acid output and pepsin concentration were assessed for basal gastric secretions. The three experimental doses of the extract at 50,100 and 200 mg/kg showed a dose-dependent decrease in both ulcer and preventive indices with the 200 mg/kg dose at 0.6 mm and 94% respectively. It also showed a significant (p<0.05) decrease in volume of gastric juice, titratable acidity, acid output and pepsin concentration in dose-dependent manner with the three experimental doses administered with the highest reduction at the 200 mg/kg dose. The results obtained suggest that this fraction down-regulated all those parameters which might be attributed to the presence of the phyto-constituents present in this fraction particularly the flavonoids, possibly through increase mucosal prostaglandin content, inhibition of histidine decarboxylase thereby decreasing histamine secretion and hydrochloric acid. Therefore, the extract fraction of this plant possesses gastro-protective activity further explaining the folkloric use of this plant in the therapy of peptic ulcer disease.

Biography

Adamu Isa Imam has completed his PhD from Ahmadu Bello University, Zaria, Nigeria. He is currently a Lecturer at the Department of Human Physiology, Faculty of Medicine, Ahmadu Bello University, Nigeria. He has published more than 10 papers in reputed journals.

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