

P002 Hypoglycaemiant and antioxidant properties of methanol extract and commercial oil of *Nigella sativa* L seeds in alloxan and streptozotocin-induced diabetic rats
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Nigella sativa is a widely used medicinal plant for the treatment of a number of human diseases such as rheumatism and gout. The plant is known for its anti-bacterial, antioxidant, antitumoral and antidiabetic properties. The oil fraction is known to be a potent analgesic and anti-inflammatory drug in rats. In this present study the anti-hyperglycaemia effect the crude methanol extract of plant seeds and the commercial oil of these seeds was investigated in both alloxan-induced and streptozotocin/nicotinamide-induced diabetic rats. Effects of these two preparations on other diabetes-linked factors such as the reducing power of the plasma and the osmotic fragility of erythrocytes as well as α -glycosidase activity was equally followed. A daily oral administration of crude methanol extract (810 mg/kg/day) and commercial oil (2.5ml/kg/day) for 25 days leads to a significant decrease of glycaemia and a significant inhibition of α -glycosidase activity, especially during the first 15 days of treatment. In addition, the antioxidant capacity, measured by the FRAP technique, increased in all diabetic rats and there was no change after the introduction of either of the two preparations. However, a slight resistance against the osmotic fragility of erythrocytes was induced in diabetic rats. The antihyperglycaemic effect of both extracts is not related to either the inhibition of the intestinal glucose absorption or stimulation of insulin secretion. We suggest that the action is a result of the inhibition of enzymes involved in the liver neoglucogenesis pathway. As shown the stress associated with the metabolic perturbation observed in diabetes induces a physiological anti-oxidant response, which probably masks the antioxidant effect of our two extracts of this medicinal plant.