

# **Antioxidant Effects of Soursop Extract and Nigella Sativa Seeds Against Oxidative Stress Induced By Mono Sodium Glutamate in Male Rats**

**Soha Mohamed Yousef**

Nutrition and Food Sciences, Home Economics Department, Faculty of Specific Education, Fayoum University

## **Abstract**

This study was conducted to determine the effect of Soursop extract and Nigella sativa seeds against oxidative stress induced by mono sodium glutamate in rats. Forty-eight adult albino rats weighing ( $180 \pm 5$  g) were divided randomly into six groups: the control group: fed on the basal diet, SE group: supplemented with Soursop extract (200 mg/kg b.w) daily by oral route, NSS group: fed a diet containing Nigella sativa seeds (30 g/kg feed), MSG group: fed a diet containing mono sodium glutamate (30 g/kg feed), MSG + SE group: administrated MSG (30 g/kg feed) together with Soursop extract (200 mg/kg b.w) daily by oral route, MSG + NSS group: administrated MSG (30 g/kg feed) together with Nigella sativa seeds (30 g/kg feed). The obtained results showed that the MSG group showed a significant increase in the serum levels of ALP, ALT, AST, and total bilirubin compared to the control group. While, the MSG + SE and MSG + NSS groups showed improvement in the levels of these biochemical parameters. MSG increased the appearance of signs of oxidative stress such as a significant increase in MDA levels with a mean value of ( $1195 \pm 15.05$  nmol/g), while the MSG + SE and MSG + NSS groups showed a significant reduction in MDA levels with the mean value of ( $802.6 \pm 16.76$  nmol/g and  $810.7 \pm 17.43$  nmol/g) respectively compared with the MSG group. The histopathological findings of the liver were in agreement with the results of serum parameters. In conclusion, the results of the study indicated that Soursop extract and Nigella sativa seeds had anti-inflammatory and antioxidant properties, which are potential mechanisms to enhance liver dysfunction.

**Keywords:** Soursop Extract, Nigella Sativa Seeds, Oxidative Stress