

Pharmacological uses of *Nigella sativa*, the black seed

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Plants have always been a traditional source of medicines and have the potential to provide new drugs. The seeds and oil of *Nigella sativa* (NS) and its main phytoactive constituent thymoquinone (TQ) are among the natural products which received much attention all over the world. *Nigella sativa* seeds are widely used in Egypt as a condiment and the expressed oil from the seeds is available in the market in the form of gelatin capsules used in folk medicine for treatment of many diseases. *Nigella sativa* has been recognized to possess numerous biological activities in various disease models including diabetes, rheumatoid arthritis, osteoporosis, hypercholesterolemia, hypertension, inflammation, dermatological and gastrointestinal disorders. Research on *Nigella sativa* proved that it contains pharmacologically active components that support its traditional use. Both NS and TQ have potential therapeutic effects in bronchial asthma. Besides, a number of investigations emphasized their antimicrobial effect. Moreover, numerous studies acknowledged their protective effects on liver, heart and kidney damage induced by drugs and chemicals. Interestingly, recent studies have shown that NS and TQ have remarkable anti-neoplastic activities on a variety of cancer cells *in vitro* and *in vivo*. The molecular mechanism/mechanisms underlying these beneficial effects are still not clearly understood. The antioxidant, antiinflammatory, immunomodulatory, regulatory effect on immune cells and cytokines and antiangiogenesis properties may play a role in this respect. This article is an attempt to summarize the state-of-knowledge on the biological activities of *Nigella sativa*. Much more research is needed, especially at the genetic and molecular levels.

Biography

Samira Saleh is Professor, vice-dean, and head of department of Pharmacology & Toxicology at Faculty of Pharmacy, Cairo University, Egypt. He graduated in bachelor's (1965), master's (1968), and Ph.D. (1971) from Cairo University and post-doctor fellowship at Strathclyde University (1977). He is member in Egyptian Universities Promotion Committee (1984-1990), (2001-2004) and advisor for EUPC (2012-2015), editor of Egyptian Journal of Basic & Clinical Pharmacology. He participated in 60 national and international conferences and has 75 publications in national and international journals. He is co-investigator in a research grant on bilharziasis FRCU GRANT 840501 (1984-1985). He supervised 45 master's and Ph.D. students (1971-Date). He is supervisor in Channel system (Tubingen, Munster, Gratz and Texas Medical Branch Universities) and peer-reviewer in a number of journals.