

EDITORIAL

BLACK SEED, *NIGELLA SATIVA*, DESERVES MORE ATTENTION

Mohammad Akram Randhawa

Nigella sativa (*N. sativa*) seed, called as 'Black Seed' in English language, 'Al-Habba Al-Sauda' or 'Al-Habba Al-Barakah' in Arabic and 'Kalvanji' in Urdu and some local languages in the Indian Sub-continent, is well known in the Middle East, Middle Asia and Far East as a natural remedy for many ailments and as a flavouring agent in bread and prickles. An authentic saying of the Prophet Muhammad (Peace Be Upon Him) about black seed is also quoted in Al-Bukhari¹:

قال رسول الله صلى الله عليه وسلم (عليكم بهذه الحبة السوداء فإن فيها شفاء من كل داء إلا السأم) والسأم هو الموت رواه أبو هريرة رضى الله عنه وأخرجه البخاري

Abu Huraira (Allah be pleased from him) narrated that Allah's Apostle (peace be upon him) said "Use the black seed, which is a healing for all diseases except 'As-Sam' " and As-Sam is Death.¹

Unfortunately very few of us in the medical profession are aware of its medicinal properties discovered by the modern scientific techniques. Advancements in the methods of analytical chemistry, physiology, pharmacology and microbiology, etc have led to the discovery of many active principles of the *N. sativa* like: Nigellidine, nigellidine, nigellimine-N-oxide, thymoquinone, dithymoquinone, thymohydroquinone, nigellone, thymol, arvacrol, oxy-coumarin, 6-methoxy-coumarin and 7-hydroxy-coumarin, alpha-hedrin, steryl-glucoside as well as rich amounts of flavinoids, tannins, essential fatty acids, essential amino acids, ascorbic acid, iron and calcium²⁻⁶; and a number of pharmacological effects of profound therapeutic value, like: Analgesic, anti-inflammatory, anti-histaminic, anti-allergic, anti-oxidant, anti-cancer, immune stimulation, anti-asthmatic, anti-hypertensive, hypoglycemic, anti-bacterial, anti-fungal, anti-viral and anti-parasitic.⁷⁻²⁵ Even in the veterinary medicine, besides the beneficial effects of *N. sativa* seed and its oil in many infectious diseases; there are reports that the addition of *N. sativa* seed cakes in the feed of buffalo and lambs improved their body weight and reproductivity; and the addition of *N. sativa* seed in the food of broiler chicks improved their immunity and feed conversion efficacy²⁶⁻²⁹

The advent of HIV infection and induction of immune suppression e.g. for organ transplants or by cancer chemotherapy increased the predisposition to invasive bacterial, viral and fungal infections: Considering the scarcity of reports regarding the activity of *N. sativa* against fungi and the growing

need for the development of new anti fungal drugs, a few studies have been conducted at the King Faisal University (KFU) Dammam Saudi Arabia for the antifungal effects of *N. sativa*. The ether extract of *N. sativa* seed and its derivative, thymoquinone, were found to inhibit some opportunistic fungi: *Aspergillus niger*, *Fusarium solani* and *Scopulariopsis brevicaulis* and many species of three important genera of dermatophytes: *Trichophyton*, *Epidemophyton* and *Microsporum*, isolated from the clinical cases.^{23,24,30} Similarly, considering the development of resistance against the presently available antibiotics for *Helicobacter pylori*, a clinical trial was conducted to investigate the activity of *N. sativa* seed for the eradication of *H. pylori* in non-ulcer dyspeptic patients and found to possess anti-*H. pylori* activity comparable to the standard triple therapy. These few reports are just for example, in fact there is a great potential in the *N. sativa* and its active principles for the development of new anti-microbial drugs. Besides, anti-oxidant and anti-cancer activities of *N. sativa* also need more attention. Although a lot of work has been done to demonstrate these effects, a lot more is needed to develop new anti-cancer drugs from *N. sativa*.

Regarding the safety of *N. sativa*; its seed powder did not produce any toxic effects at very high doses (28 gm/kg orally)³¹ in rabbits; its oil was also very safe when given orally to rats (LD₅₀ of 28.8 ml/kg)³²; and oral thymoquinone was also found to be quite safe (LD₅₀ of 2.4 g/kg).³³ However, there are controversial reports for the LD₅₀ of thymoquinone given intraperitoneally to rats/mice, varying from 10 mg/kg to 90.3 mg/kg.^{20,34} Lower intraperitoneal LD₅₀ is probably due to local irritation caused by thymoquinone. Because of this variation LD₅₀ of thymoquinone given orally as well as intraperitoneally, both in mice and rats, was determined at KFU, Dammam; which confirmed the safety of thymoquinone with an oral LD₅₀ of around 1000 mg/kg and intraperitoneal LD₅₀ of around 100 mg/kg.³⁵

Hundreds and thousands of research articles are available in the internet, published in the well known international medical journals, regarding studies on the medicinal properties of *N. sativa* seed, its oil and active principles. There are many web-sites for the promotion of the natural products from *N. sativa*: seed itself, capsules of seed powder, seed powder with tea; and its oil, cream, ointment and shampoo, etc. Once the awareness about the beneficial effects of *N. sativa* will increase that would

draw the attention of the agriculturists to grow *N. sativa*, pharmaceutical industry to prepare, compound and dispense its products and the basic and clinical researchers to investigate more and more of its pharmacological effects and therapeutic efficacy.

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Address for Correspondence:

Dr. Mohammad Akram Randhawa, Department of Pharmacology, College of Medicine, King Faisal University, Dammam, KSA

Email: mrakramsa@yahoo.co.uk