

The traditional remedy bitter cumin is a great source antioxidant plant phenols

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Bitter cumin is used extensively in traditional medicine to treat a range of diseases from vitiligo to hyperglycemia. It is considered to be antiparasitic and antimicrobial and science has backed up claims of its use to reduce fever or as a painkiller. New research published in BioMedCentral's open access journal *BMC Complementary and Alternative Medicine* shows that this humble spice also contains high levels of antioxidants.

Reactive oxygen species (ROS), also known as free radicals, are produced as part of the metabolic processes necessary for life. Oxidative stress, however, is caused by overproduction or under-removal of these free radicals. Oxidative stress is itself involved in a number of disorders, including atherosclerosis, neural degenerative disease, inflammation, cancer and ageing. Antioxidants are thought to mop up these [free radicals](#), reduce oxidative stress, and prevent disease.

Phenolic compounds from plants, especially [polyphenolic compounds](#), are often considered to be antioxidants. Researchers from Mysore, India, have used biochemical and biological techniques to show that seeds from bitter cumin (*Centratherum anthelminticum* (L.) Kuntze), a member of the daisy family, are a rich source of phenolic antioxidants.

Researchers from the Central Food Technological Research Institute said that, "Bitter cumin extracts were strong antioxidants in the free radical scavenging systems tested. The extracts were also strong electron donors and hence reducing agents, another marker of antioxidation. In

biological tests bitter cumin inhibited the oxidation of liposomes (used as a model for cell membrane oxidation) and offered complete protection against [DNA damage](#)."

Dr Naidu said, "The amount of plant phenols we were able to extract and the antioxidant activity of bitter cumin depended on the method used. Nevertheless the antioxidant activity of bitter cumin correlated with total phenol content so it may well be that an array of phenolic compounds within bitter cumin seeds are responsible for the antioxidant activity seen."

More information: Antioxidant potential of bitter cumin (*Centratherum anthelminticum* (L.) Kuntze) seeds in in vitro models, V Ani and Kamatham A Naidu, *BMC Complementary and Alternative Medicine* (in press)

Provided by BioMed Central

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