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## ***In vitro* Antioxidant Activity of Itrifal Kishneezi: A Unani Formulation**

Amit Baran Sharangi

Department of BCKV, Agri University, Mohanpur-741252, Nadia, WB, India

Itrifal Kishneezi, a unani formulation, containing black myrobalan (unripe fruit), yellow myrobalan (fresh ripe fruit) and brown myrobalan (dried ripe fruits) along with other ingredients showed antioxidant activity by its free radical scavenging and metal chelating activities, according to latest research by scientists in India.

The study published in the American Journal of Drug Discovery and Development, also suggests that it might reduce the free radical generation, quench the radicals already formed and inhibit neuronal and other free radical mediated damages.

Led by Koneru *et al.* (2011), Department of Pharmacology, Sultan-ul-Uloom College of Pharmacy, Hyderabad, India, the research team took up the study to test the antioxidant potential of Itrifal Kishneezi (IK) with two *in vitro* antioxidant models-free radical scavenging activity and metal chelating activity.

Studies showed the significance of oxidative stress, mitochondrial dysfunction and free radicals in aging and in the pathogenesis of many diseases viz., autoimmune disorders, cancer, radiation injury, parkinsonism, alzheimer's disease, multiple sclerosis, myocardial infarction, atherosclerosis, diabetes, peptic ulcer, epilepsy, depression, nephrotoxicity, smoking induced respiratory disorders, etc.

“Therapies aimed at reducing oxidative stress may ameliorate tissue damage and favorably alter the clinical course” says Anupama in a previous research paper with the same co-authors published in Pharmacology online.

Itrifal Kishneezi (IK) has traditional usage in Unani for chronic catarrh, gastric problems-flatulence, indigestion, hyperacidity; head ache, eye pain and as a stimulant It contains *Terminalia chebula* (Myrobalan)-black Myrobalan (unripe fruit-0.435 g), yellow myrobalan (fresh ripe fruit-0.435 g) and brown myrobalan (dried ripe fruits-0.435 g); *Terminalia belerica* (0.435 g); *Coriandrum sativum* (0.435 g); clarified butter (ghee-0.866 g) and honey (6.953 g).

“Some of the ingredients of the present formulation are rich sources of tannins and flavonoids which are phenolic compounds and may be responsible for its antioxidant activity”, explains the authors and comments that “Unani medicines are formulated generally from natural resources and are well tolerated and this system of medicine needs to be deeply explored for the benefit of mankind”.

Itrifal Kishneezi was tested for DPPH-free radical scavenging and Fe<sup>2+</sup> metal ion chelating activity using UV-V is spectrophotometer. It showed considerable *in vitro* antioxidant activity in a dose dependent manner.

Further studies are required to determine its mechanism of action and *in vivo* studies.

### **REFERENCE**

Koneru, A., S. Satyanarayana, K. Mukkanti and K.A. Khan, 2011. *In vitro* antioxidant activity of Itrifal Kishneezi: A unani formulation. Am. J. Drug Discovery Dev., 1: 121-128.