

## Hypoglycemic plants: Folklore to modern evidence review

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The increasing worldwide incidence of diabetes mellitus in adults constitutes a global public health burden. It is predicted that by 2030, India, China and the United States will have the largest number of people with diabetes. By definition, diabetes mellitus is categorized as a metabolic disease characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. The vast majority of cases of diabetes fall into two broad etiopathogenetic categories. The first category, type 1 diabetes, the cause is an absolute deficiency of insulin secretion. While the second type is much more prevalent category, called as type 2 diabetes, the cause is a combination of resistance to insulin action and an inadequate compensatory insulin-secretory response. Despite the great interest in the development of new drugs to prevent the burden of complications associated with this disease and the raised interest in the scientific community to evaluate either raw or isolated natural products in experimental studies, few of them were tested in humans. This review is a contribution to the understanding of ethnopharmacology of plants having hypoglycemic activity and its contribution to the elaboration of new treatment of diabetes mellitus.

### Biography

Mohamed Eddouks is Professor at Moulay Ismail University, Morocco. After his post-doctoral fellowship at Department of Physiology, Faculty of Medicine of Montreal, Canada, he is working for the last 12 years on medicinal plants. His contribution to this field includes 3 international books and more than 70 peer-reviewed articles and book chapters of international repute. His is serving as editorial member of some prestigious journals. He has been the Dean of Polydisciplinary Faculty of Errachidia from 2008 to 2012.

## Central nervous system depressant effects of *Nigella sativa* extracts during germination

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*Nigella sativa* Linn. having many acclaimed medicinal properties, is an indigenous herbaceous plant belonging to the Ranunculaceae family. This study was designed to investigate the effects of *N. sativa* extract from ungerminative seed and from different germination phases of seed on the CNS responses in experimental animals. Anxiolytic, locomotor activity of extracts (1 g/kg) was evaluated in both stressed and unstressed animal model and antiepileptic effect was evaluated by maximal electroshock seizure model keeping diazepam (20 mg/kg) as a positive control. Antidepressant effect was evaluated by forced swim test and tail suspension test keeping imipramine (15 mg/kg) as a positive control.

All tested extracts of *N. sativa* during different phases of germination showed significant anxiolytic effect in comparison to control ( $P < 0.001$ ). Diazepam reduced locomotor activity in unstressed rats did not affect in stressed rats while *N. sativa* extracts from germination phases significantly ( $P < 0.001$ ) reduced locomotor activity in unstressed as well as stressed animals. All the extracts of *N. sativa* from different germination phases exhibited significant ( $P < 0.001$ ) reduction in various phases of epileptic seizure on comparison with the reference standard diazepam. A significant reduction in the time required for the recovery during epilepsy was observed in 5th day germination extract treated groups. During antidepressant test *N. sativa* extracts did not exhibited significant reduction in immobility of rats. On the basis of all these results it was concluded that during germination especially on the 5<sup>th</sup> day germination, *N. sativa* have significant CNS depressant activity as compared to whole seed and may be due higher content of secondary metabolites during germination.

### Biography

Mohammad Hayatul Islam is pursuing Ph.D. from Integral University, Lucknow, India. He has published a book and many research papers in reputed international journals. He has been awarded with national level fellowship during Ph.D. His expertise is in the areas related animal tissue culture and pharmacology.