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Evaluation and identification of phytoconstituents from some medicinal plants of North East India having anti-diabetic properties

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Sof plants in the treatment of various human ailments. The ethno-botanical information reports about 800 plants that may possess anti-diabetic potential. A wide array of plant derived active principles representing numerous chemical compounds has demonstrated activity consistent with their possible use in the treatment of Diabetes mellitus (DM). Among these are alkaloids, glycosides, galactomannan gum, polysaccharides, peptidoglycans, hypoglycans, guanidins, steroids, carbohydrates, glucopeptides, terpenoids, amino acids and inorganic ions.North East India is rich of its flora and fauna; the flora of this region includes aromatic and medicinal plants with a number of bioactive compounds. Most of these medicinal plants are required to identify the active principles present in these plants. Before the coming of the modern pharmacological medicines, the people of North East India are using medicinal plants for the treatment of Diabetes mellitus. Even today, people not only in the rural areas but those living in the urban areas are also using these medicines, and give first preference to herbal treatments by consulting the medicine men. A report of some commonly used anti-diabetic plants in the indigenous system of health care will be highlighted.

Biography

Warjeet S. Laitonjam did his M.Sc. and Ph.D. from the North-Eastern Hill University (NEHU), Shillong. He is serving as the Head of the Department of Chemistry, Manipur University. He was selected as a Commonwealth fellow of Association of Commonwealth Universities, London, UK (one year, 1997-1998). He was nominated as a visiting scientist by the Royal Society, London to visit UK for three months (from 31st January to 5th May 2006). His research area of specialization is synthetic organic chemistry and natural products chemistry. He has produced twelve Ph.D. students and published more than seventy research papers.

Protective effects of black seed (*Nigella Sativa*) and garlic (*Allium sativum*) against fructoseinduced metabolic syndrome in rats

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Since ancient times, man has used medicinal plants to cure human diseases. Among famous medicinal plants with known antioxidant activity; black seed and garlic have been used for thousands of years in traditional medicine. In recent years, rates of metabolic syndrome (MS) have been increasing globally. Present work was designed to study the potential protective effects of black seed and garlic against fructose-induced MS and to assess benefits gained from their combination. 50 White male albino rats were divided into 5 groups. A control group fed on normal chow and tap water. MS group was fed the same diet plus 10% fructose in drinking water. Treated groups received NS or garlic either alone or in combination as oral supplements to high fructose diet.

Results: Results revealed that body weight, liver weight, fasting blood glucose, serum TG, TC and LDL-C levels were significantly increased while HDL-C and the activity of lactate dehydrogenase, glucose-6-phosphate dehydrogenase and catalase in liver tissues were significantly decreased in MS group. Administration of NS or garlic either alone or in combination significantly ameliorated all the above-mentioned parameters. Treatment with both NS and garlic showed the utmost reduction in serum LDL-C and TG levels and could restore the activity of the studied enzymes to normal values.

Conclusion: Both NS and garlic were effective in attenuating multiple abnormalities of MS. Combination of these medicinal plants may have additional effectiveness in reducing serum TC, LDL-C and increasing HDL-C levels which could be a step inprevention and management of MS.