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Studies on anti-diabetic properties and determination of harmful constituent in some anti-diabetic herbal preparations available in Bangladesh

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Global assessment reveals that, for the foreseeable future, the majority of the people of the developing countries will have to depend on herbal medicine for their primary healthcare as modern medicine will not be accessible to them. Though herbal medicines are considered safe due to their age-old usage, but serious adverse effects have been reported for herbal medicines. Therefore, assessment of safety and quality of herbal products is a necessity. This study evaluated the anti-diabetic properties and made a preliminary assessment of the concentrations of some of the most common toxic metals in six anti-diabetic herbal preparations (ADHPs) available in Bangladesh. ADHP (1 to 6) were collected from herbal medicine shops produced in five different local herbal pharmaceuticals. Acute anti-diabetic study was done on STZ induced diabetic model rats with a single feeding. Then two of the herbal preparations were fed for 28 consecutive days with different doses. Simultaneously the concentrations of the most common toxic metals i.e., Pb, Cu, Mn, Cd and As were determined by AAS in the ADHPs. The results showed that among the six ADHPs only one (ADHP-3) was found to be effective as anti-diabetic. Regarding the toxic metals the level of As in all ADHPs has been found to be below Maximum Acceptable Limit (MAL) of nutritional supplement intake whereas concentration of Pd, Cu and Mn in ADHP-1 and Cu, Mn in ADHP-6 were high of MAL of nutritional supplement intake/day. The observations call for extended evaluation of all herbal products for their safety.

Biography

Begum Rokeya has completed her PhD in Pharmacology at the age of 28 years from Kyiv Institute of Pharmacology and Toxicology, Ukraine. She is serving as Professor and Chief Research Officer in the Dept of Pharmacology, in Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorder (BIRDEM), a WHO collaborative Center for Research on Prevention and Control of Diabetes. She has published more than 50 papers in the peer-reviewed national and international journals & chapters in Books (3).

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