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Ethnopharmacological Note

A new polyherbal formulation for lowering blood glucose levels in diabetic patients

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Abstract

Diabetes is a metabolic disorder characterized by frequent hyperglycemia and glucose intolerance because of lack of insulin or defective insulin action (Piero et al., 2014). Existing medications to reduce blood glucose are not readily available or affordable to particularly the rural people and people having poverty level income. On the other hand, various formulations have existed in Bangladesh from ancient times to control blood glucose. To be noted in this regards is that since ancient times diabetes has been recognized as a disorder in the Indian sub-continent and known by the term 'madhumeho'. The presence of various anti-diabetic and anti-hyperglycemic formulations in Bangladesh suggests that a strong potential exists for discovery of novel and more affordable anti-diabetic drugs. We have recently come across a novel anti-diabetic formulation obtained from a female folk medicinal practitioner named Rowshan Ara Khatun (age 68 years) and practicing in Bagshayesta village in Bagha, Rajshahi district, Bangladesh. In her formulation, she mixed equal amounts of dried and powdered rhizomes of *Alpinia*

malaccensis (N. Burr.) Rose (Zingiberaceae, Bengali name – ‘deotara’), roots of *Ageratum conyzoides* (Asteraceae, English – ‘billy goat weed’, Bengali – ‘uchunti’), roots of *Acalypha indica* L. (Euphorbiaceae, English – ‘Indian Acalypha’, Bengali – ‘muktajhuri’), roots of *Vernonia cinerea* (L.) Less. (Asteraceae, English – ‘ash coloured fleabane’, Bengali – ‘kukasim’), and roots of *Achyranthes aspera* L. (Amaranthaceae, English – ‘chaff flower’, Bengali – ‘apang’). Tablets made from the mixture are taken orally three times daily. The various plant specimens were collected and identified by a trained taxonomist at the Medicinal Plant Collection Wing of the University of Development Alternative. The Adi tribes of Dehang-Debang Biosphere Reserve in Arunachal Pradesh, India use fresh rhizome of *Alpinia malaccensis* as anti-emetic (Kagyung et al., 2010). The Naik clan of the Rajbongshi tribe in Bangladesh use leaves of *Ageratum conyzoides* to stop bleeding from cuts and wounds (Mou et al., 2012). Whole plants of *Acalypha indica* are used to improve functions of brain and heart in Bangladesh (Akber et al., 2011). Roots of *Vernonia cinerea* are used to treat snake bite by the Pahan tribe of Bangladesh (Rahmatullah et al., 2012). The Marma tribe of Naikhongchhari, Bandarban District, Bangladesh use roots of *Achyranthes aspera* for jaundice and respiratory problems (Rahmatullah et al., 2009). Taken together, the formulation seems to a new use of several plant species and may prove to be an effective remedy for diabetes.

Keywords: *Alpinia malaccensis*, *Euphorbia indica*, *Ageratum conyzoides*

Declaration of conflict of interest

No conflict of interest associated with this work.

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Figure 1. *Alpinia malaccensis*



Figure 2. *Ageratum conyzoides*



Figure 3. *Acalypha indica*