



Asian Journal of Pharmacognosy

Ethnopharmacological Note

A novel remedy for lowering blood glucose in diabetic patients

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Abstract

Diabetes is a disorder characterized by high blood glucose levels and which rapidly is reaching almost endemic levels throughout the world. The disease cannot be cured with any known allopathic medicines; medicines are available for lowering blood glucose only. Moreover, allopathic medicines (including insulin injections) are costly and beyond the affordability of the common people of Bangladesh. Left untreated, diabetes can rapidly lead to diabetic retinopathy, neuropathy and nephropathy. Diabetes is a disorder recognized from thousands of years back. Ayurvedic treatises of old refer to the disease as 'madhumeha' (Srinivas et al., 2014). A number of plants are mentioned in the scientific literature to be able to reduce blood glucose levels (Raman et al., 2012). The search for new anti-diabetic drugs from many of these plants is ongoing. Folk medicinal practitioners along with various tribes of Bangladesh have their formulations for diabetes treatment. The use of various species of plant(s) in these formulations can differ widely. A number of these ethnic anti-diabetic formulations have previously been reported by us (Karim et al., 2011; Rahmatullah et al., 2012; Akter et al., 2015). In this report, we present a novel formulation for controlling blood glucose levels, which was obtained from a female folk medicinal practitioner (FMP), age 60 years, practicing at Hajirkit area, Fotikchhori,

Chittagong district. In her formulation, she at first collected, dried, and powdered separately leaves of *Azadirachta indica* A. Juss. (Meliaceae family; English and Bengali: Neem) (Fig 1), *Coccinia indica* Wight & Arn. (Cucurbitaceae family; English: Ivy gourd; Bengali: Telakucha) (Fig 2), and *Trichosanthes dioica* Roxb. (Cucurbitaceae family; English: Pointed gourd; Bengali: Potol) (Fig 3). The powders are combined in equal weights and stored in a jar. A pinch of the mixture (what is held within the thumb, index finger and middle finger) is soaked in a glass of water overnight. The following morning, the patient drinks the water on an empty stomach. The FMP claimed that this is an excellent formulation, and has benefited diabetic patients because of the ready availability and affordability of the ingredients. Although *Azadirachta indica* and *Coccinia indica* have been previously reported to be used in folk medicine in Bangladesh to control blood glucose levels (Shaheen et al., 2011; Rahmatullah et al., 2012), to our knowledge this is the first reported use of *Trichosanthes dioica* leaves as an anti-diabetic agent. Moreover, the formulation is a novel one and previously unreported.

Keywords: *Azadirachta indica*, *Coccinia indica*, *Trichosanthes dioica*

Declaration of conflict of interest

No conflict of interest associated with this work.

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Figure 1. *Azadirachta indica*

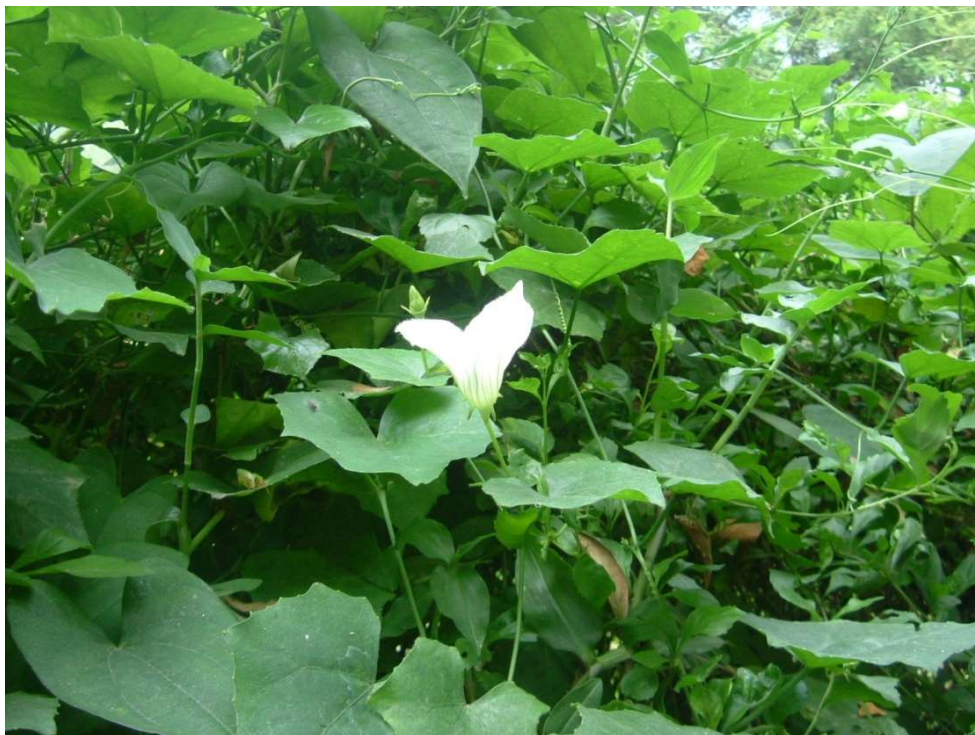


Figure 2. *Coccinia indica*



Fig 3. *Trichosanthes dioica*