



## Use of a Novel Polyherbal Formulation for the Treatment of Diabetes

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Diabetes is a serious disorder characterized by elevated levels of blood glucose and which can rapidly lead to a number of complicating factors like cardiovascular problems, diabetic neuropathy, diabetic retinopathy, and diabetic nephropathy. Increased oxidative stress during diabetes is thought to be the causative agent behind the incidences of other diabetes-induced disorders (Ullah et al., 2016). There is an increasing prevalence of Type 2 diabetes in Bangladesh (Biswas et al., 2016). Allopathic medicine cannot cure diabetes; the same is possibly the case with traditional medicines despite the claims made by some folk medicinal practitioners in Bangladesh. Moreover, rural people either cannot afford or lack access to modern medical facilities for treatment of diabetes, which is costly and cumbersome (because of the use of glucometers and in some cases, insulin injections). As a result, rural people and many urban people lacking adequate financial resources visit folk medicinal practitioners (FMPs) for treatment, whose mode of treatment mostly utilizes medicinal plants.

From possibly thousands of years ago, medicinal plants have been used to cure diseases by human beings. This has continued till the present age, and many allopathic drugs have come from plants (Yuan et al., 2016). To discover more drugs, it is essential to collect phyto-therapeutic information from traditional medicinal practitioners with the objective of utilizing their information to isolate compounds of therapeutic interest from plants. In this ethno note, we describe a novel polyherbal formulation for treatment of diabetes collected from a FMP in Rangpur district, Bangladesh. The FMP was named Sri Hasi Kumar Banik, male, and aged 67 years. He had been practicing for around 40 years and obtained his knowledge from his father.

In his formulation, the FMP mixed equal weights of seeds from *Holarrhena antidysenterica* (L.) Wall. (Family: Apocynaceae; English: Bitter oleander; Bengali: Kurchi or Indrajol), *Centratherum anthelminticum* (L.) Kuntze (Family: Asteraceae; English: Iron weed; Bengali: Shomraj), and *Trigonella foenum-graecum* L. (Family: Fabaceae; English: Fenugreek; Bengali: Methi). The seed mixture was powdered. The patient was advised to take one teaspoon of the powder with cold water twice daily in the morning and evening. This procedure is to be followed on a daily basis to keep blood glucose under control.



The plant and seeds of *Holarrhena antidysenterica*, *Centratherrum anthelminticum*, and *Trigonella foenum-graecum* (Figures 1-6) were identified at the Bangladesh National Herbarium and were given the Accession Numbers of 45676, 45674, and 45675, respectively.

Seeds of *Holarrhena antidysenterica* have been reported to give hypoglycemic effect in streptozotocin-induced diabetic rats (Mana et al., 2010). In Type 2 diabetic rats, *Centratherrum anthelminticum* seeds have been observed to reduce hyperglycemia by increasing insulin secretion (Arya et al., 2012). Anti-diabetic effect of *Trigonella foenum-graecum* seed powder has been observed in alloxan-induced diabetic albino rats (Renuka et al., 2009). Cumulatively speaking, the various scientific reports strongly validate the use of the polyherbal formulation of the FMP in reducing blood glucose level in diabetic patients.

#### References

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Figure 1. *Holarrhena antidysenterica* plant



Figure 2. *Holarrhena antidysenterica* seeds



Figure 3. *Centratherum anthelminticum* plant



Figure 4. *Centratherum anthelminticum* seeds



Figure 5. *Trigonella foenum-graecum* plant



Figure 6. *Trigonella foenum-graecum* seeds