



## Asian Journal of Pharmacognosy

Ethnopharmacological Note

### **A novel folk medicinal polyherbal formulation for treatment of any type of fever**

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Folk and tribal medicinal practitioners (FMPs and TMPs) are possibly the most common traditional medicinal practitioners of Bangladesh. They do not need any institutional degrees or registration to practice. Their practice methods are extremely diverse and may include both phytotherapy and zootherapy. Most often, their therapeutic methods are orally transmitted from generation to generation. Consequently, study and documentation of their practices can yield valuable and new information on therapeutic uses of plants, animals and also occasionally, minerals. Fever is defined as a rise in body temperature above the normal temperature of 98.2°F (Ogoina, 2011). Temperatures may rise due to a lot of diseases, the common diseases in Bangladesh being cold, pneumonia, typhoid, malaria, chikungunya, dengue, urinary tract infections, and tuberculosis. While antibiotics are administered for bacterial infections-induced fever, either aspirin or paracetamol are the first choices of a physician in lowering body temperature. Rest and drinking plenty of fluids are also suggested to a patient with fever. In recent years, possibly because of global climate changes, fever-causing diseases like malaria, dengue, typhoid, and pneumonia are rising in Bangladesh; the mean annual total health care expenditure was 6,555 Bangladesh Taka (BDT) in 2015 (1USD = 77BDT in 2015) (Kabir et al., 2016). Chikungunya is also becoming an emerging infection in Bangladesh; the disease is characterized by fever and arthritis (Hassan et al., 2014). Modern medical facilities are not readily available or affordable to the rural and urban people of Bangladesh. As a result, any easily available and low price medicine is beneficial to such people, and FMPs and TMPs can fill this gap through their knowledge of medicinal plants. This knowledge can be further utilized by scientists for further research and discovery of lead compounds and novel drugs. Ethnomedicinal surveys are necessary to gather important data on medicinal plants and their therapeutic uses. These data include names and identification of plants, mode of use, formulations, dosages, and adverse effects, if any. It is not necessary that the FMP or TMP involved is knowledgeable on the medicinal properties of numerous plants. Occasionally a FMP or TMP is found with knowledge on the therapeutic properties of one plant or one plant-based formulation, and this knowledge can prove to be totally novel and thus potentially useful. As such, we had been conducting ethnomedicinal surveys among different areas of Bangladesh to document the phytotherapeutic practices of FMPs and TMPs (Mukti and Rahmatullah, 2013; Khan et al., 2015; Akter et al., 2016; Shah et al., 2017; Akter et al., 2017). During the course of one of these surveys, we observed a FMP (otherwise known as Kaviraj) using a novel polyherbal formulation, which he claimed can cure any



type of fever. The name of the FMP was Sridas Chandra Prang. The last name suggested that there may be tribal connections, although the FMP described himself as a non-tribal Hindu. The FMP was male, 55 years in age, and had been practicing for 27 years. He learnt his phytotherapeutic formulations from his 'guru' Mahim Haldar. The FMP practiced in Naogaon district, Bangladesh. The novel formulation of the FMP for treatment of any type of fever and its preparation method involved taking a red-coloured earthen pot (free of any black marks or spots) and putting 250 ml of mustard oil (for children) or 500 ml mustard oil (for adults) in the pot. Mustard oil is prepared from pressing the seeds of *Brassica juncea* (L.) Czern. (Brassicaceae family). The plant is commonly known in English as brown mustard, and in Bengali as 'shorisha'. 7-8 leaves of *Azadirachta indica* A. Juss. (Meliaceae family, English and Bengali name – 'Neem'), 4-5 leaves of *Paederia foetida* L. (Rubiaceae family, English – Stink vine, Bengali – 'gandha vadal'), 4-5 leaves of *Vitex negundo* L. (Lamiaceae family, English – Chinese chastetree, Bengali – 'nishinda'), and 4-5 leaves of *Murraya koenigii* (L.) Spreng. (Rutaceae family, English – Curry plant, Bengali – 'marain') are put in the oil and squeezed by hand thoroughly for 10-12 minutes. The oil is then massaged on the body and head to treat any type of fever. The FMP mentioned that the oil can be kept for about 20 days, and claimed that fever arising from any type of causes can be cured within a week after massage has started. All the plants were identified at the Bangladesh National Herbarium, where specimens were deposited and accession numbers obtained, the numbers being 43895, 43901, 43902, and 43909 for *Azadirachta indica*, *Paederia foetida*, *Vitex negundo*, and *Murraya koenigii*, respectively. All four plants are quite common in Bangladesh; *Azadirachta indica* A. Juss. and *Vitex negundo* L. are planted for their medicinal values, *Paederia foetida* L. and *Murraya koenigii* (L.) Spreng are found in the wild. Ethnomedicinal uses of *Azadirachta indica*, *Vitex negundo*, and *Murraya koenigii* to treat malaria or malarial fever has been reported from ethnic groups in Assam, India (Phukan, 2012). However, the present formulation as described here appears to be novel. There are a number of diseases causing fever, and it is possible that the four plants in combination may not only serve as anti-pyretic plants, but also prove useful in treatment of the disease(s) itself. For instance, *Azadirachta indica* leaves have been shown to be useful against cerebral malaria (Farahna et al., 2010).

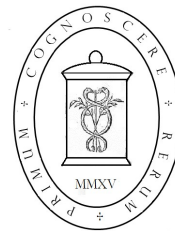
**Keywords:** medicinal plants fever; Bangladesh

### Declaration of conflict of interest

No conflict of interest associated with this work.

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