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Folk medicinal practices in Keraniganj Upazila, Dhaka district, Bangladesh

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Abstract

Folk medicinal practitioners (FMPs) of Bangladesh are un-registered traditional medicinal practitioners who are not required to undergo any formal training and registration before they can practice. Their major mode of treatment is with plants. Contrary to popular beliefs, FMPs can be found practicing in cities, even Dhaka city, the capital of Bangladesh with a population of 15 million people. Although the practices of rural FMPs have been dealt in a few reports, urban and specially Dhaka district FMPs have more or less gone un-noticed. The objective of this study was to document the phytotherapeutic practices of a FMP, who practices in Keraniganj Upazila in Dhaka district. To be noted is that this Upazila adjoins Dhaka city and for most practical purposes is considered a suburb of the city. The FMP was found to use a total of 10 plants distributed in to 9 families in his treatment. The formulations were extremely simple, all formulations being monoherbal. The diseases treated included tonsillitis, headache, loss of appetite, heart disorders, sexual problem, low hemoglobin concentration, prickly heat, bone fracture, eczema, toothache, and helminthic infections. Some of the uses of the present FMP are novel and previously unreported, thus presenting a researcher to conduct appropriate pharmacological studies towards discovery of new drugs.

Keywords: Ethnomedicine, folk medicine, Keraniganj, Dhaka, Bangladesh

Introduction

Traditional medicine has always differed from allopathic medicines' approach of 'one drug one therapy'. Traditional medicinal systems in their various forms or even within a single form can incorporate plants and animals. Even the use of a single plant part or animal part from one species of plant or animal can result in the use of numerous constituents present in that part. The various constituents may play a synergistic role; it is also possible that if the primary constituent has any adverse effects, other constituents may be present to alleviate the adverse effects. In fact, possibly without knowing at a molecular level, traditional medicinal practitioners have used polyherbal formulations or combined phytotherapy with zootherapy and have been doing so for thousands of years^[1]. Allopathic medicine is now catching up on this approach, and modern doctors are using more than one drug for any given disease not only for the above-mentioned factors but also to lessen the risk of drug resistance^[2].

With the emergence of new diseases and drug-resistant vectors, there has come an urgent necessity for new drug discoveries. Medicinal plants can be a potentially excellent source for new drugs in view of the fact that each plant contains hundreds of phytochemicals with diverse pharmacological activities^[3]. Folk medicinal practitioners (FMPs) form a very diverse group of practitioners in Bangladesh. They do not need any formal training or registration; anybody can start practicing as a FMP at any time. Their success or failure depends on mostly their phytotherapeutic knowledge because plants form their major mode of treatment. This phytotherapeutic knowledge is orally passed from generation to generation and can become enriched with every successive generation through accumulation of experience. Not surprisingly, FMPs have very diverse practice methods in the sense that each FMP has his or her specialization in disease treatment and specialized plant-based formulation (sometimes also animal-based formulation) for treatment. We had been documenting the medicinal plants of Bangladesh as used by folk medicinal practitioners (FMPs) and tribal medicinal practitioners (TMPs) on a systematic basis^[4-21]. Since information on the practices of urban or semi-urban FMPS is rare, the objective of the present study was to document the phytotherapeutic practices of a FMP practicing in Keraniganj Upazila (sub-district) adjoining Dhaka city in Dhaka district, Bangladesh.

Materials and Methods

The survey was conducted in July 2017 with one FMP practicing in Keraniganj Upazila in Dhaka district, Bangladesh. The FMP was named Md. Johirul Islam, male, age 35 years and had been practicing for the last ten years. He mentioned that his phytotherapeutic information was obtained from his father.

Prior Informed Consent was first obtained from the FMP. He was thoroughly apprised as to the nature of our visit and consent obtained to disseminate any information including his name both nationally and internationally. Actual interviews were conducted in the Bengali language, which was spoken fluently by the FMP as well as the interviewers. The interviews were conducted with the help of a semi-structured questionnaire and the guided field-walk method of Martin [22] and Maundu [23]. In this method the FMP took the interviewers on guided field-walks through areas from where he collected his medicinal plants, pointed out the plants, and described their uses. All plant specimens were photographed and collected on the spot, pressed, dried and brought back to Bangladesh National Herbarium at Dhaka for identification. Voucher specimens were also deposited with the Medicinal Plant Collection Wing of the University of Development Alternative.

Results and Discussion

The FMP was found to use a total of 10 plants distributed in to 9 families in his treatment. The nine families comprised of Asteraceae, Bombacaceae, Capparidaceae, Combretaceae, Fabaceae, Menispermaceae, Moraceae, Phyllanthaceae, and Rubiaceae. The formulations were extremely simple, all

formulations being monoherbal. Moreover, the formulations essentially were either extracts of plant or plant part or paste of plant or plant part. Extract making was also simple; the plant part or plant was simply soaked overnight in water and the water used following straining out the plant part or plant. Straining was done through a piece of clean cotton cloth. For preparation of paste, plants were grinded with a quern (known in Bengali as 'shil pata').

The diseases treated included tonsillitis, headache, loss of appetite, heart disorders, sexual problem, low hemoglobin concentration, prickly heat, bone fracture, eczema, toothache, and helminthic infections. The results are shown in Table 1. At least two of the uses appear to be novel, namely the use of *Tiliacora racemosa* leaf to treat bone fracture and the use of *Streblus asper* bark to treat anemia and low hemoglobin. The Tharu tribe of Pilibhit Tiger Reserve, Uttar Pradesh, India use *Tiliacora racemosa* for treating malaria [24]. To our knowledge, this is the first reported use of *Tiliacora racemosa* to treat bone fracture. *Streblus asper* is considered an anti-filarial plant [25]; this is possibly the first reported use of the plant against anemia. *Streblus asper* leaves have previously been reported to be used against diabetes in Kishoreganj district, Bangladesh [26]. The use of *Ficus racemosa* fruits against prickly heat also appears to be a novel use (previously unreported) by the FMP. Dried fruits have previously been reported to be used against debility [27] and diabetes [28]. Thus it appears that although the FMP used few plants, at least some of the uses are novel and merit scientific attention for appropriate pharmacological studies leading to possible discovery of new and effective drugs.

Table 1: Medicinal plants and formulations of the FMP from Keraniganj Upazila, Bangladesh

Serial Number	Scientific Name	Family Name	Local Name	Parts used	Ailments and mode of medicinal use
1	<i>Acmella oleracea</i> (L.) R.K. Jansen	Asteraceae	Bingoraj	Flower	Toothache. Flower paste is applied topically.
2	<i>Bombax ceiba</i> L.	Bombacaceae	Shimul	Root	To increase sexual vigor. Aqueous extract of root is taken orally.
3	<i>Crataeva magna</i> (Lour.) DC.	Capparidaceae	Borun	Leaf	Headache, loss of appetite. Leaf juice is taken orally.
4	<i>Terminalia arjuna</i> (Roxb.) Wight & Arn.	Combretaceae	Arjun	Bark	Heart attack, chest pain. Aqueous extract of bark (obtained by soaking bark overnight in water) is taken orally.
5	<i>Cassia fistula</i> L.	Fabaceae	Bandorlori	Leaf	Helminthic infections. Leaf juice is taken orally.
6	<i>Tiliacora racemosa</i> Colebr.	Menispermaceae	Harjora	Leaf	Bone fracture. Leaf paste is applied topically.
7	<i>Ficus racemosa</i> L.	Moraceae	Dumur	Fruit	Prickly heat. Crushed fruits are applied topically.
8	<i>Streblus asper</i> Lour.	Moraceae	Shaora	Bark	Low hemoglobin, anemia. Juice extracted from pressed bark is taken orally.
9	<i>Phyllanthus reticulatus</i> Poir.	Phyllanthaceae	Chitki	Leaf	Eczema. Leaf paste is applied topically.
10	<i>Hedyotis corymbosa</i> (L.) Lamk.	Rubiaceae	Shara tara	Leaf	Tonsillitis. Leaf juice is taken orally.

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