An ethnomedicinal survey was carried out in Sancharpar village of Jamalpur district, Bangladesh. Interviews were carried out with a folk medicinal practitioner of the village with the help of a semi-structured questionnaire and the guided-field walk method. The practitioner was observed to use a total of 23 plants distributed into 18 families in his various formulations. The diseases treated included infections, skin disorders, infertility, gonorrhea, pain, conjunctivitis, blood poisoning, burning sensations during urination, bone fracture, gastrointestinal disorders, chicken pox, tumor, spermatorrhea, insomnia, tooth infections, mucus, and low sperm count and density. A comparative ethnomedicinal analysis of the use of some plants in various areas of the world indicated that the plants used by the practitioner have multiple uses and can be considered as potential sources of new drugs.

Key words: Phytomedicine, Jamalpur, medicinal plants, Bangladesh

INTRODUCTION

Although allopathic medicine is common in Bangladesh, other traditional medicinal systems like Ayurveda, Unani, homeopathy, and folk medicinal systems exist side-by-side with allopathic medicine in the country. Folk medicinal system is practiced by practitioners otherwise known as Kavirajes or Vaidyas. They rely almost totally on medicinal plants in their various treatments. Their knowledge is usually passed from generation to generation to a close member of the family. That the system has persisted for possibly hundreds of years attest that the system works and Kavirajes possess or can possess quite extensive knowledge about the medicinal properties of plants.

Following the advent of allopathic medicine, other traditional medicinal systems went into a rapid decline because of the efficacy of allopathic medicines in delivering quick results. However, recent years are witnessing a renaissance of traditional medicinal systems, caused because of adverse effects of allopathic medicines and emergence of various allopathic drug-resistant vectors. It has been estimated that in developed countries like the United States, herbal drugs account for about 25% of the total medicines, while in countries like India and China, this proportion rises to about 80% [31].

Of the 250,000 higher plant species, it has been estimated that 80,000 are medicinal. This huge resource is mostly untapped and lacking scientific research on their bioactive phytoconstituents and pharmacological activities. Even allopathic medicine is dependent on a number of drugs, the original sources of which were medicinal plants. Major plant drugs for which synthetic ones do not exist include ajmalacine, vincristine, vinblastine, reserpine, quinine, pilocarpine, morphine, atropine, artemisinin, taxol, plumbagin, allicin, ricin, nimbidine, and forskolin among others. Scientists do not doubt that many more efficacious drugs can be discovered from...
medicinal plants, if more research is conducted on the various plant species.

An efficient way to get first-hand knowledge on medicinal plants is to conduct ethnomedicinal surveys among traditional medicinal practitioners. Bangladesh has a rich history of traditional medicine. To get a comprehensive view of the medicinal plants of Bangladesh, we had been conducting ethnomedicinal surveys among traditional medicinal practitioners for a number of years [55,59-61,14,24,26,48-49,62-70,3,8-10,23,28,29,71,72,86,88,16,17,25,27,34,73-76,87,6,53,78,79]. Although these surveys have yielded a valuable amount of information on medicinal plants of Bangladesh, we believe that this is just the tip of the iceberg. Much more needs to be documented to attain our objective. Towards that, the present survey was carried out in Sancharpur village of Jamalpur district to document the medicinal plant usage of the folk medicinal practitioner of the village.

**Materials and Methods**

The present survey was carried out at Sancharpur village of Jamalpur district, Bangladesh. The village had one practicing Kaviraj, namely, Sandip Saha, male, age 36 years, and Hindu by religion. Prior Informed Consent was first obtained from the healer. The healer was explained the full purpose of our visit and consent obtained to disseminate any information provided in both national and international venues. Actual interviews were conducted with the help of a semi-structured questionnaire and the guided field-walk method of Martin [43] and Maundu [44]. In this method, the healer took the interviewers on guided field-walks through areas from where they collected their medicinal plants, pointed out the plants, and described their uses. Plant specimens were photographed and collected on the spot, pressed, dried and brought back to Dhaka to be identified at the Bangladesh National Herbarium. Interviews were carried out in the Bengali language, which was spoken by both healer and interviewers.

**Results and Discussion**

The practitioner was observed to use a total of 23 plants distributed into 18 families in his various formulations. The diseases treated included infections, skin disorders, infertility, gonorrhea, pain, conjunctivitis, blood poisoning, burning sensations during urination, bone fracture, gastrointestinal disorders, chicken pox, tumor, spermatorrhea, insomnia, tooth infections, mucus, and low sperm count and density. Some formulations consisted of individual plants or plant parts, while other formulations consisted of more than one plant. The formulations were fairly simple. The results are shown in Table 1.

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Family Name</th>
<th>Local Name</th>
<th>Parts used</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Camelina sativa</em> L.</td>
<td><em>Cannabaceae</em></td>
<td>Bherenda</td>
<td>Leaf, fruit</td>
<td>Antidote to poison. Root juice is taken orally with mishri (crystalline sugar). Aqueous thorns are applied topically with milk.</td>
</tr>
<tr>
<td><em>Cicer arietinum</em> L.</td>
<td><em>Fabaceae</em></td>
<td>Tetul</td>
<td>Seed</td>
<td>Sore throat. Paste of young root is taken orally with mishri (crystalline sugar). Aqueous thorns are applied topically with milk.</td>
</tr>
<tr>
<td><em>Citrullus vulgaris</em> L.</td>
<td><em>Cucurbitaceae</em></td>
<td>Shimul</td>
<td>Seed, leaf</td>
<td>Infections. Seeds are orally taken daily till pain is gone. Sions on tongue. Unripe fruits are chewed.</td>
</tr>
<tr>
<td><em>Corchorus spinosus</em> L.</td>
<td><em>Moringaceae</em></td>
<td>Kochu</td>
<td>Seed, leaf</td>
<td>Skin infections. Leaf juice is topically applied.</td>
</tr>
<tr>
<td><em>Datura stramonium</em> L.</td>
<td><em>Solanaceae</em></td>
<td>Telakucha</td>
<td>Leaf, root, thorn</td>
<td>Headache. Leaves are orally taken daily till pain is gone.</td>
</tr>
<tr>
<td><em>Euphorbia resinifera</em> L.</td>
<td><em>Euphorbiacea</em></td>
<td>Rendal</td>
<td>Root, bark</td>
<td>Skin infections. Paste of young root is taken orally with mishri (crystalline sugar). Aqueous thorns are applied topically with milk.</td>
</tr>
<tr>
<td><em>Ficus carica</em> L.</td>
<td><em>Moraceae</em></td>
<td>Banyan</td>
<td>Whole plant</td>
<td>Infections. Seeds are orally taken daily till pain is gone. Sions on tongue. Unripe fruits are chewed.</td>
</tr>
<tr>
<td><em>Ficus religiosa</em> L.</td>
<td><em>Moraceae</em></td>
<td>Vana</td>
<td>Fruit</td>
<td>Skin infections. Paste of young root is taken orally with mishri (crystalline sugar). Aqueous thorns are applied topically with milk.</td>
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</tbody>
</table>
Zingiber officinale, L. was used by the healer against gonorrhea and acne. The roots of the plant are reportedly used against diabetes by the tribes of Pedabayalu Mandalam, Visakhapatnam district, Andhra Pradesh, India [56]. The plant is used as an aphrodisiac and against diarrhea, dysentery, menorrhagia, stomach complaints, diabetes, menstrual disorders, and for conception by the local people of Samba district in Jammu and Kashmir State, India [7]. The Gonds of Adilabad district, Andhra Pradesh, India use stem bark of the plant for dysentery [51]. The tribal people of Similipal Biosphere Reserve, Odisha, India use sap of the plant against diarrhea [57]. In Mysore and Coorg districts, Karnataka, India, bark paste is applied to forehead for dizziness [38]. Leaves are soaked in water and the decoction taken for bath to treat body pain by the Orang Asli in Kampung Bawong Peak, Perak, West
Malaysia [85]. In various localities of Bhopal district, India, the plant is used to treat stone diseases [2].

The Garo tribe inhabiting the Madhupur forest region of Bangladesh uses roots of *Bombax ceiba* to treat gonorrhea [45]. The Marakhet sect of the Garo tribe inhabiting Mymensingh district, Bangladesh also uses roots of the plant to treat gonorrhea [77]. The Teli tribal community of Natore district, Bangladesh uses the plant to treat debility [75]. The ethnomedical survey reports that the plant is used against gonorrhea in several parts of Bangladesh.

The leaves and fruits of *Coccinia grandis* were used by the healer to treat headache and lesions on tongue. The Mullu kuruma tribe of Wayanad district in Kerala, India use leaf paste to treat snake bite [89]. The rural people of Mayurbhanj district, Orissa, India use fruits to treat stomach pain in children and filarial swelling [83]. The villagers in Kumaragiri Hills of Salem district in Tamil Nadu, India use leaf juice mixed with honey for diabetes and bronchitis [4]. In Similipal Biosphere Reserve, Orissa, India, fresh leaf juice is used to treat jaundice [47]. The Kurumba tribals of Pennagaram Region of Dharmapuri district, Tamil Nadu, India, use decoction of leaves to cure ulcer [4]. Leaves are used to treat piles and keep the body cool by the tribal people in Theni district, Western Ghats, Southern India [30]. The people of Ivanur Panchayat in Cuddalore district, Tamil Nadu, India orally take leaf juice for ulcer [40]. The whole plant is used for healing wounds among the Malayali tribes in Vattal Hills, Dharmapuri, Tamil Nadu, India [80].

The stems of *Coccinia grandis* are used as anti-fertility agent by ethnic people of Tripura, India [18]. The tribals of Khammam district, Andhra Pradesh, India use leaf juice to treat rheumatism [42]. In Buldhana district, Maharashtra, India, the plant is used to treat wounds [35]. The tribals of Bankura district, West Bengal, India use root extract as digestive and carminative, and leaf extract for ophthalmia and gonorrhea [90]. The Vaiyani tribals of Alagarkoil Hills, Madurai district, Tamil Nadu, India use leaf extract of the plant for jaundice [20]. The ethnic communities of Tinsukia district in Assam, India use root juice for treatment of diabetes [12]. The Kanikkars tribals of Tirunelveli district, Tamil Nadu, India use unripe fruits or leaves to get relief from body pain [46]. Raw fruits are eaten in Mysore and Coorg districts, Karnataka, Southern India to cure mouth ulcers [38]. The Malayali tribals in Kolli Hills in Eastern Ghats, Tamil Nadu, India, orally take leaf juice for treatment of ulcers [94].

In Moradabad district of Western Uttar Pradesh in India, leaf and root juice of *Coccinia grandis* is given in diabetes [39]. Leaf juice is also used for diabetes by the Baiga tribe living in Rewa district, Madhya Pradesh, India [96]. The local people of Kalrayan Hills, Eastern Ghats, Tamil Nadu, India use leaf juice for treatment of ulcer [41]. Paste of leaves is used to treat diarrhea by Malayali tribes in Jawadhu Hills, Thiruvannamalai district, Tamil Nadu, India [58]. Leaf juice is used for ear pain by locals of Khammam district, Andhra Pradesh, India [36]. Aqueous extract of leaves, roots and mucilage of fruits is used for diabetes by tribals of Deori Taluka, Gondia district, Maharashtra, India [21]. In Dakshin Dinajpur district of West Bengal, India, fresh leaf juice is taken to treat diabetes, cold and coughs, and also applied on head to reduce body temperature [15]. Sikkim and Darjeeling Himalayan tribes of India take fresh root juice to control diabetes [13]. In Ambala district, Haryana, India, leaf juice is orally taken for ulcers [95]. From the various published ethnomedical reports, it appears that use of the plant against mouth ulcers (which may include tongue lesions is not uncommon).

*Colocasia esculenta* was used by the healer against infections and infertility. The tribes of Chitteri Hills in India eat boiled tubers of the plant to cure piles [33]. Leaves fried in castor oil are used by the Gond tribe of Bhandara district, Maharashtra, India to relieve joint pains [22]. The Mongoloid ethnic groups of Disoi Valley Reserve Forest of Jorhat district, Assam use rhizome paste for cuts, burns and scorpion stings [11]. The Sonowal Kachari tribe of Dibrugarh district in Assam, India uses tuber juice on skin sores and blisters, and petiole juice on cuts and wounds [82]. In Iloilo, Philippines, the plant is used to treat musculo-skeletal disorders [93]. The Thadou tribe of Manipur, India uses sap to apply over bee stings and eat rhizomes for diabetes [53]. The Kurumba tribes of Nilgiri district, Tamil Nadu, India use leaf juice and rhizome paste to treat skin diseases [19]. The Vanjaris tribal community of Pathardi Tahasil in Ahmednagar district, Maharashtra, India use leaves of the plant against rheumatic pain [84].

The Tai-Khamyangs of Assam, India use leaves of *Colocasia esculenta* against jaundice [91]. The local people of Amarkantak region, Madhya Pradesh, India use tubers to treat constipation, stomatitis, hemorrhoids, cancer, and general weakness [92]. The stems of the plant are applied as poultice in athlete’s foot in the Subanens in Dumingag, Zamboanga del Sur, Philippines [50]. The Gonds of Adilabad district, Andhra Pradesh, India eat boiled rhizomes in internal hemorrhages [51]. The Kondareddis of Khammam district, Andhra Pradesh, India eat fresh leaves every day for a fortnight and eat leaf curry on alternate days for a fortnight for loss of appetite [81]. In Batan Island, the Philippines, sap from fresh leaves or stems are applied to boils, cuts or wounds [1]. Other folk medicinal practitioners from Bangladesh use the plant against diarrhea [17]. Dried and powdered tubers are eaten by the Deb barma clan of the Tripura tribe of Moulibazar district, Bangladesh to treat rheumatic pain [32].

An ethnomedical comparative usage of just three plants suggests that the medicinal plants used by the healer in the present study has multiple
therapeutic uses, and as such, highlights two points, namely that the plants merit further scientific studies towards evaluating their full therapeutic potential, and that the medicinal plants used by the folk medicinal practitioners deserve more attention from the scientific community towards documentation before such traditional medicinal knowledge is lost due to the impact of the modern age.

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