ETHNOMEDICINAL PRACTICES AMONG A TRIPURA COMMUNITY IN RANGAMATI DISTRICT, BANGLADESH

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ABSTRACT

**Background:** The Tripura community is a tribal community who can be found in the Chittagong Hill Tracts region and in Comilla district of Bangladesh. The objective of the present study was to document the ethnomedicinal practices of a Tripura community in Rangamati district of Chittagong Hill Tracts region. Interestingly, the community healer belonged not to the Tripura tribe but to the Chakma tribe who are the dominant tribe in the area. **Methods:** Interview of the tribal healer was carried out with the help of a semi-structured questionnaire and the guided field-walk method. **Results:** The healer used a total of 15 plants distributed into 13 families for treatment. The various diseases treated included jaundice, hypertension, edema in leg, loss of appetite, irregular menstruation, hydrocele, vomiting, stomach pain, snake bite, leucorrhea, flaking of skin, lack of milk in nursing mothers, diarrhea, and nocturnal emissions. The treatment method was simple with plant paste, juice or decoction being taken orally or applied topically. **Conclusion:** Documentation of tribal healing practices, which are fast disappearing, not only can contribute to preservation of tribal knowledge but can lead to further scientific studies resulting in discovery of more efficacious medicines.

**KEYWORDS:** Tripura, medicinal plants, Rangamati, Bangladesh.

INTRODUCTION

Bangladesh is believed to be home to more than 100 tribal communities, who are further divided into various clans and sects. The Tripura tribe can be found residing in the various...
districts of Chittagong Hill Tracts (CHT) region as well as Comilla district in the country. According to a census in 1991, the Tripuras (also known as Tripuri) numbered 61,129 people in CHT region. The Tripura tribe can also be found in Tripura State of neighboring India, where the tribal population is much larger. The tribe speaks a language, which belongs to the Bodo branch of the Tibeto-Burman family of languages.

Various tribes of Bangladesh have their own culture, which includes traditional medicinal practices. This culture is fast eroding because of loss of their forest habitats and the influence of both Bengali settlers and Christian missionaries. Yet, as observed in our previous ethnomedicinal surveys, [1-20] tribal and folk medicinal practitioners can contribute vastly to our understanding of medicinal properties of various plant species because of their long acquaintance and use of medicinal plants for treatment of various diseases. As such, the objective of the present survey was to document the ethnomedicinal practices of a Tripura tribal community residing in Rangamati district of CHT. An additional feature of interest was that this community was serviced by a Chakma tribal medicinal practitioner (TMP), the Chakmas being the dominant tribe in this area.

METHODS

The Chakma TMP named Sumoti Chakma was located practicing among the Tripura tribal community residing in Amtoli village of Rangamati district, Bangladesh. The TMP was male and practicing by his own admission for about 20 years. Prior informed consent was initially obtained from the TMP. The TMP was informed as to the nature of our visit and consent obtained to disseminate any information provided including his name both nationally and internationally. Actual interviews were conducted in the Bengali language, which was spoken fluently by the TMP 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 [21] and Maundu. [22] In this method the TMP took the interviewers on guided field-walks through forest 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 deposited with the Medicinal Plant Collection Wing of the University of Development Alternative.

RESULTS
The TMP was observed to use a total of 15 families distributed into 13 families in his treatment. With a single exception, his formulations consisted of mainly using one plant or plant part to treat a single disease. The sole exception consisted of using the fruits of *Terminalia bellirica*, *Terminalia chebula* and *Emblica officinalis* to be taken with honey as appetite stimulant. Incidentally, one of the most noted formulation in Ayurveda is Triphala, which consists of dried and powdered fruits of the above three plants mixed in equal proportions after discarding the seeds. Triphala is considered in Ayurveda to improve digestion, reduce cholesterol, improve circulation, exert a cardioprotective effect, reduce high blood pressure and improve liver function. The results are shown in Table 1.

The TMP’s use of *Rauvolfia serpentina* to treat hypertension demonstrates his knowledge on the medicinal properties of plants. The plant is known to contain the alkaloid, reserpine, which has long been considered as one of the most important drugs against hypertension in allopathic medicine. [23]
Table 1. Medicinal plants and formulations of the Chakma TMP practicing among the Tripura community of Rangamati district.

<table>
<thead>
<tr>
<th>Serial Number</th>
<th>Scientific Name</th>
<th>Family Name</th>
<th>Local Name</th>
<th>Parts used</th>
<th>Disease, Symptoms, Formulations, and Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>Nelsonia canescens</em> (Lam.) Spreng.</td>
<td>Acanthaceae</td>
<td>Miji likkar</td>
<td>Whole plant</td>
<td>Jaundice. Whole plant is boiled in water and the water taken orally thrice daily for 7 days.</td>
</tr>
<tr>
<td>2</td>
<td><em>Rauvolfia serpentina</em> (L.) Benth. ex Kurz.</td>
<td>Apocynaceae</td>
<td>Gruruk chan</td>
<td>Leaf, stem, root</td>
<td>Hypertension. If blood pressure is not too high, paste of leaves, stems and roots is applied to neck. If blood pressure is too high, paste is taken orally.</td>
</tr>
<tr>
<td>3</td>
<td><em>Salmalia malabarica</em> Schott &amp; Endl.</td>
<td>Bombacaceae</td>
<td>Shimul</td>
<td>Whole plant</td>
<td>Edema in leg. Paste of whole plant is applied as poultice to leg thrice daily for 7 days.</td>
</tr>
<tr>
<td>4</td>
<td><em>Terminalia bellirica</em> Roxb.</td>
<td>Combretaceae</td>
<td>Bohera</td>
<td>Fruit</td>
<td>Appetite stimulant. Fruits of <em>Terminalia bellirica</em>, <em>Terminalia chebula</em> and <em>Emlica officinalis</em> are taken orally with honey.</td>
</tr>
<tr>
<td>5</td>
<td><em>Terminalia chebula</em> Retz.</td>
<td>Combretaceae</td>
<td>Horitoki</td>
<td>Fruit</td>
<td>See <em>Terminalia bellirica</em>.</td>
</tr>
<tr>
<td>6</td>
<td><em>Costus speciosus</em> (Koen ex Retz.) Sm.</td>
<td>Costaceae</td>
<td>Bijuful gach</td>
<td>Leaf</td>
<td>Irregular menstruation. Paste of leaf is orally taken.</td>
</tr>
<tr>
<td>7</td>
<td><em>Antidesma ghaesembilla</em> Gaertn.</td>
<td>Euphorbiaceae</td>
<td>Fejang gach</td>
<td>Leaf</td>
<td>Snake bite. Leaf paste is applied topically as soon as possible to bitten area.</td>
</tr>
<tr>
<td>8</td>
<td><em>Emlica officinalis</em> Gaertn.</td>
<td>Euphorbiaceae</td>
<td>Amloki</td>
<td>Fruit</td>
<td>See <em>Terminalia bellirica</em>.</td>
</tr>
<tr>
<td>9</td>
<td><em>Asparagus racemosus</em> Wild.</td>
<td>Liliaceae</td>
<td>Grotishora, Shotomul</td>
<td>Root</td>
<td>Hydrocele. Paste of root is applied to scrotum thrice daily for 1 week.</td>
</tr>
<tr>
<td>10</td>
<td><em>Melastoma malabathricum</em> L.</td>
<td>Melastomataceae</td>
<td>Mogapotri</td>
<td>Whole plant</td>
<td>Vomiting, stomach pain. One teaspoonful of paste of whole plant is taken thrice daily for 2-3 days.</td>
</tr>
<tr>
<td>11</td>
<td><em>Tinospora crispa</em> Miers</td>
<td>Menispermaceae</td>
<td>Chuita gamari</td>
<td>Leaf</td>
<td>Galactagogue. Leaf juice is taken orally thrice daily for 7 or more days.</td>
</tr>
<tr>
<td>12</td>
<td><em>Ficus religiosa</em> L.</td>
<td>Moraceae</td>
<td>Dumur</td>
<td>Leaf, stem</td>
<td>Flaking of skin or flesh from fingers. Paste of leaves and stems is topically applied to fingers.</td>
</tr>
<tr>
<td>13</td>
<td><em>Cymbopogon citratus</em> (DC.)</td>
<td>Poaceae</td>
<td>Dang sababarang</td>
<td>Root</td>
<td>Leucorrhrea. Crushed roots are taken orally thrice daily for 1-2 days.</td>
</tr>
<tr>
<td>14</td>
<td><em>Scoparia dulcis</em> L.</td>
<td>Scrophulariaceae</td>
<td>Kawa kanja</td>
<td>Young leaf</td>
<td>Diarrhea. Juice obtained from 7 young leaves is taken orally 2-3 times daily for one day.</td>
</tr>
<tr>
<td>15</td>
<td><em>Sterculia villosa</em> Roxb.</td>
<td>Sterculiaceae</td>
<td>Udol gach</td>
<td>Sap from stem</td>
<td>Nocturnal emissions. Stem is chewed whence a milk color sap emerges, which is taken orally.</td>
</tr>
</tbody>
</table>
DISCUSSION

The TMP used the plant *Nelsonia canescens* for treatment of jaundice. The hepatoprotective activity of methanol extract of the plant has been reported against paracetamol induced hepatotoxicity in Wistar rats. [24] *Salmalia malabarica*, otherwise known as *Bombax ceiba* is a plant reported to be used in traditional medicinal systems of India against edema. [25] *Antidesma ghaesembilla* was used by the TMP to treat snake bite. The plant needs scientific studies to substantiate this particular use by the TMP, which apparently may be unique in the ethnobotanical literature to the best of our knowledge.

The use of *Asparagus racemosus* to treat hydrocele is also unique to this TMP and merits further scientific attention. *Melastoma malabathricum* was used by the TMP against stomach pain; ethnic groups in India and Indonesia also use the plant for the same purpose. [26] The aqueous extract of leaves of this plant has also been shown to have gastroprotective effects against ethanol induced gastric ulcer in rats. [27] Ethnic groups and traditional medicinal systems in India use *Scoparia dulcis* against diarrhea, [28] which is similar to the use of the plant by the TMP; scientific studies have also confirmed the inhibitory activity of the plant against enteric pathogens. [28] Thus it can be said that the plants used by the TMP can be investigated further as to their pharmacological effects and which may lead to more substantiation of their present uses by the TMP.

CONCLUSION

The treatment method of the Chakma TMP practicing among a Tripura community was quite unique in his use of several not so common medicinal plants like *Nelsonia canescens*, *Antidesma ghaesembilla*, and *Cymbopogon citratus*. Moreover, his use of medicinal plants is supported by scientific reports on the pharmacological properties of the plants or reports of similar uses of the plants in other traditional medicinal systems or by other tribal people. As such, his treatment method merits further scientific research.

Conflicts of interest

The authors declare that there are no conflicts of interest.

REFERENCES


