



Research Article

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Phyto- and Zoo-therapeutic practices of a Manipuri tribal healer in Moulvibazar district, Bangladesh

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ABSTRACT

The Manipuri tribe is one of the largest tribe residing in Sylhet Division of Bangladesh. Although in recent years the tribal people are more and more resorting to allopathic medicine, various communities of the tribe still rely on their traditional medicinal practices. The objective of the present survey was to document the medicinal practices of a Manipuri tribal healer in Moulvibazar district who was observed to use plants, animals, reptiles and fish in his formulations. Interview of the healer was conducted with the help of a semi-structured questionnaire and the guided field-walk method. The healer was observed to use a total of 18 plants (17 identified and one unidentified), one animal, one reptile, and one fish in his various formulations. These plant formulations were used to treat various ailments like gastrointestinal disorders, oral lesions, hair loss, helminthiasis, burns, diabetes, skin disorders, coughs, malarial and other types of fever, and toothache. The use of animal parts was a novel feature in his formulations. The meat of Indian fox was used to treat rheumatic pain; the blood of Ganges River sprat was used to treat baldness, and the gall bladder of the Indian python was used to treat asthma. Taken together, the formulations form an interesting group of observation, which merits scientific attention as to their drug discovery potential.

Key words: Manipuri, medicinal plants, zoo therapy, Moulvibazar, Bangladesh

INTRODUCTION

The Manipuris are one of the largest tribal groups of Bangladesh. They possibly migrated to Bangladesh in the 18th century from Manipur in India and can now be found in the various districts of Sylhet Division in the northeastern part of the country. Their original language belongs to the Kuki-chin group of the Tibeto-Burman sub-family of the Mongolian family of languages. In recent years, they have adopted more and more the Bengali language and can speak this language of the majority population of Bangladesh fluently. The Manipuris have a rich culture and are famous for their dances and their colorful dresses.

The Manipuri communities practiced the Vaisnava religion (a sect of the Hindu religion). They eat protein foods but not meat. Their marriage is as per their customs, which means a widow cannot remarry and marriage does not take place within the same clan. During marriage, they wear the dress, which they use for "Rasa" dance. The bride and groom circle seven times followed by exchanging flower garlands. The pair is then tied to each other with a piece of cloth (urna). For untying the urna, the friends of the bride has to pay some money to the groom's family. Sons generally inherit father's property. In absence of sons, daughters may inherit such property.

Although the Manipuris have their own traditional medicinal practices, in recent years they have begun to be inclined more and more to allopathic medicine. Their traditional medicinal practices, however, still survive in isolated communities, the traditional healers in general being elderly persons and possibly the last of this line of traditional practitioners. Since Sylhet Division is considered a hotspot for various floral species many of which are used in traditional medicines, it is important to document such practices before they become totally lost. Towards attaining a comprehensive list of medicinal plants and other materials used in both folk and tribal medicines in Bangladesh, we had been conducting systematical ethnomedicinal surveys among folk and tribal medicinal healers for some time [1-16]. The objective of this study was to document the medicinal practices of a Manipuri tribal healer (MTH) who practiced among the Manipuri community residing besides the Lawachora National Park in Moulvibazar district of Sylhet Division in Bangladesh.

EXPERIMENTAL SECTION

The Manipuri tribal community was located near Lawachara National park in Sreemangal Upazila of Moulvibazar district of Bangladesh. The community had one MTH, namely Nanda Kishore Mukherjee, by gender male, and by age 77 years. Prior Informed Consent was first obtained from the MTH. The MTH was explained as to the nature of our visit and consent obtained to disseminate any information obtained both nationally and internationally. Interviews were conducted during 2014 in Bengali language, which was spoken by both the MTH as well as the interviewers. Actual interviews were conducted with the help of a semi-structured questionnaire and the guided filed-walk method of Martin [17] and Maundu [18]. In this method, the MTH took the interviewers on guided field-walks through forested areas from where he collected his medicinal plants, pointed out the plants, and described their uses. Plant specimens were photographed, collected, pressed and dried and brought to Dhaka, where they were identified at the Bangladesh National Herbarium.

RESULTS AND DISCUSSION

The MTH was observed to use a total of 18 plants (17 identified and one unidentified) as well as parts from three animal species in his treatment. The various plants were distributed into 14 families. The various plants were used to treat ailments like gastrointestinal disorders, oral lesions, hair loss, helminthiasis, burns, diabetes, skin disorders, coughs, malarial and other types of fever, and toothache. Among the three animal parts, the meat of Indian fox was used to treat rheumatic pain; the blood of Ganges River sprat was used to treat baldness, and the gall bladder of the Indian python was used to treat asthma. The results are shown in Tables 1 and 2.

The MTH used both mono-herbal as well as poly-herbal formulations in his treatment. Hair loss was treated with leaves of *Nerium indicum*. On the other hand, for treatment of indigestion and bloating, leaf juice of *Tinospora crispa* was mixed with fruits of *Piper album* and rock salt. One and half teaspoonfuls of the mixture were advised to be taken orally twice daily. The MTH also used the same plant to treat multiple ailments. For instance, *Tinospora crispa* was also used to treat coughs, albeit with fruits of *Piper nigrum*. For treatment of malaria, chronic fever and viral fever, leaf juice of *Tinospora crispa*, *Andrographis paniculata*, *Swertia chirayita* and arcochela (an unidentified plant) were mixed together. One cup of the mixture was advised to be taken orally daily on an empty stomach. The examples suggest that the MTH possessed a good understanding of the manifold therapeutic uses of a given plant or plant part and further knew the significance of using poly-herbal formulations.

A perusal of the scientific literature suggests that the selection of various plants for treatment of different ailments by the MTH can be scientifically validated to some extent. For instance, methanol extract of stems of *Tinospora crispa* has been shown to reduce lipopolysaccharide-induced fever in rabbits [19]. *Andrographis paniculata* has also been found useful in treating colds and fevers [20]. *Swertia chirayita* is also widely used in India to treat fever and malaria [21]. Thus the three plants in combination can produce a strong synergistic action against various forms of fever. Since the fourth plant, arcochela, could not be identified, its scientific potential in alleviating fever could not be scientifically validated. However, the examples with the other three plants suggest that the use of this plant is also possibly valid.

Table 1. Plant formulations used by the Manipuri tribal healer of Moulvibazar district.

Serial Number	Scientific Name	Family Name	Local Name	Parts used	Disease, Symptoms, Formulations, and Administration
1	<i>Andrographis paniculata</i> Nees	Acanthaceae	Kalo megh	Leaf	See <i>Tinospora crispa</i> .
2	<i>Carissa carandas</i> L.	Apocynaceae	Koromcha	Fruit	Loss of appetite. Fruits are orally taken in the raw or cooked form.
3	<i>Nerium indicum</i> Mill.	Apocynaceae	Rokto korobi	Leaf	Hair loss. Paste of leaves is applied to hair and kept for one to one and half hours before washing it off. This is done once daily for 2 weeks.
4	<i>Borassus flabellifer</i> L.	Arecaceae	Tal	Sap	See <i>Curculigo recurvata</i> .
5	<i>Spilanthes calva</i> DC.	Asteraceae	Nojla	Leaf	Oral lesions. Leaves are boiled in 200 ml water followed by gargling with the water twice daily.
6	<i>Ananas comosus</i> (L.) Merr.	Bromeliaceae	Anarosh	Leaf	Helminthiasis. The white portion at the base of young leaf is crushed to obtain juice. The juice is taken orally twice daily for 3-4 days.
7	<i>Mesua ferrea</i> L.	Clusiaceae	Nagesthar	Leaf, flower	Burns. Dried and powdered leaves and flowers are mixed with a small amount of ghee (clarified butter) to make a paste, which is applied to burnt area.
8	<i>Coccinia grandis</i> (L.) Voigt.	Cucurbitaceae	Kola kochu	Leaf	Diabetes. Leaf juice is taken orally in the morning once daily on an empty stomach on a regular basis.
9	<i>Swertia chirayita</i> (Roxb. ex Fleming) H. Karst.	Gentianaceae	Chirata	Leaf	See <i>Tinospora crispa</i> .
10	<i>Curculigo recurvata</i> Dryand	Hypoxidaceae	Emtal	Leaf	Acne. Two spoonfuls of leaf juice are taken orally with talmishri (crystalline sugar prepared from sap of <i>Borassus flabellifer</i>) in the morning on an empty stomach.
11	<i>Litsea monopetala</i> (Roxb.) Persoon	Lauraceae	Kajli pata	Leaf	Indigestion, constipation. Young leaf juice is orally taken with sugar twice daily.
12	<i>Tinospora crispa</i> Miers	Menispermaceae	Gulonjo	Leaf	Indigestion, bloating. Leaf juice of <i>Tinospora crispa</i> is mixed with fruits of <i>Piper album</i> and rock salt. One and half teaspoonfuls of the mixture are taken orally twice daily. Coughs. Leaf juice of <i>Tinospora crispa</i> is mixed with powdered fruits of <i>Piper nigrum</i> . Two spoonfuls of the mixture are taken orally thrice daily for 3-4 days. Malaria, chronic fever, viral fever. Leaf juice of <i>Tinospora crispa</i> , <i>Andrographis paniculata</i> , <i>Swertia chirayita</i> and arcochela (unidentified plant) are mixed together. One cup of the mixture is taken orally daily on an empty stomach.
13	<i>Peperomia pellucida</i> L.	Piperaceae	Luchi pata	Leaf	Eczema. Paste of leaf is topically applied 4-5 times daily for a few days.
14	<i>Piper album</i> L.	Piperaceae	Shada gol morich	Fruit	See <i>Tinospora crispa</i> .
15	<i>Piper nigrum</i> L.	Piperaceae	Kalo gol morich	Fruit	See <i>Tinospora crispa</i> .
16	<i>Ixora coccinea</i> L.	Rubiaceae	Rongon	Root	Diarrhea. Boiled roots are taken orally twice daily till cure.
17	<i>Murraya paniculata</i> (L.) Jack.	Rutaceae	Kamini	Leaf	Toothache. Leaves are boiled in water followed by gargling with the water for 2-3 minutes. This is done 2-3 times daily for 3-4 days.

Table 2. Animal formulations used by the Manipuri tribal healer of Moulvibazar district

Serial Number	Scientific Name (English name)	Family Name	Local Name	Parts used	Disease, Symptoms, Formulations, and Administration
1	<i>Vulpes bengalensis</i> (Bengal fox)	Canidae	Shiyal	Meat	Rheumatic pain. Meat is cooked and eaten once weekly for 1 month.
2	<i>Corica soborna</i> (Ganges river sprat)	Clupeidae	Kuccha mach	Blood	Hair loss, baldness. Blood is applied to head and kept for one to one and half hours. This is done once weekly for 3 months.
3	<i>Python molurus</i> (Indian python)	Pythonidae	Chaklapura, Ajarar	Gall bladder	Asthma. Dried and powdered gall bladder is orally taken with honey once daily after meals for 3 days.

Ananas comosus was used by the MTH against helminthic infections; the anthelmintic property of the plant has been described [22]. Leaves of *Coccinia grandis* were used by the MTH against diabetes. The blood sugar lowering effect of leaves has been reported in trials with human volunteers [23]. *Peperomia pellucida* was used by the MTH against acne. The plant reportedly has similar use in folk medicines of Central and South America [24]. The roots of *Ixora coccinea* was used by the MTH against diarrhea. Extract of flowers of the plant reportedly showed anti-diarrheal activity against castor oil-induced diarrhea in Swiss albino mice [25]. Leaves of *Murraya paniculata* were used by the MTH to give relief from toothache. Leaves have been shown to contain a carbazole alkaloid, isomurrayafoline B with analgesic activity [26].

The use of various animal parts for treatment by the MTH remains to be scientifically validated. However, it has been reported that folk medicinal practitioners in Jhenaidah district, Bangladesh, use the oil obtained from boiling a dead Bengal fox to treat rheumatism. The MTH, on the other hand, advised eating cooked meat of the Bengal fox as treatment for rheumatism.

CONCLUSION

A number of the plants used by the Manipuri tribal healer can be scientifically validated in their traditional uses based on reported pharmacological properties of the plants or components isolated from the plants. As such, the other plants also deserve scientific attention as to their relevant pharmacological properties. Plants have always constituted a major source for novel drug discoveries. As such, the Manipuri healer's plants can also potentially be sources of novel and efficacious drugs. The various animal parts also need further scientific studies as to their scientific validations.

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