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Research Article

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Ethnomedicinal practices among the Hembrom clan of the Santal tribe in Setabganj of Dinajpur District, Bangladesh

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ABSTRACT

The Santals are one of the largest tribal groups of Bangladesh and can be found in the northwestern districts of the country as well as neighboring West Bengal State of India. They are divided into a number of clans of which the Hembron clan forms a major clan. The objective of the present study was to document the ethnomedicinal practices of Hembrom healers of the tribe living in Setabganj in Dinajpur District. Ethnomedicinal information was obtained from the clan healers with the help of a semi-structured questionnaire and the guided field-walk method. The three healers of the clan were observed to use a total of 20 medicinal plants distributed into 18 families in their treatment of various diseases, which included decreased eye sight, pain, skin disorders, jaundice, gastrointestinal disorders, poisonous insect bites, ear infection, oral disorders, leucorrhea, helminthiasis, menstrual problems, fever, respiratory tract disorders, and chicken pox. Since the Santals are considered to be one of the indigenous people of the area, their tribal medicinal knowledge can prove useful, following proper scientific validation, in the cure of diverse diseases.

Key words: Santal, Hembrom, ethnomedicine, tribal practices, Dinajpur, Bangladesh

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INTRODUCTION

The Santals are one of the major tribes of Bangladesh, who are believed to have settled in the northwestern regions of Bangladesh since ancient times. For this reason, they are also known locally as ‘Adivasis’. They can be found in the northwestern districts of Dinajpur, Rangpur, Rajshahi, Thakurgaon and Panchagarh of Bangladesh as well as the neighboring state of West Bengal in India. Their main occupation nowadays is agriculture although hunting gathering used to be their major food sources not too long ago. They follow the ‘Sonaton’ religion, which is close to the Hindu religion, but unlike the Hindus also have animistic elements. In recent years a number of Santals are converting to Christianity. Even after becoming Christians, many Santals worship other deities. They have their own festivals of which the chief festival is ‘Baha’. The Santals also have their own language although most of them can speak Bengali – the language of the mainstream population of Bangladesh.

The Santals are divided into a number of clans like the Soren or Hembrom. Each clan has their own system of traditional medicinal practices where healers rely predominantly on medicinal plants for treatment of different ailments. Since they have lived on the land for possibly thousands of years, the medicinal plant knowledge of the healers are considerable and can be utilized by scientists as the basis for development of new cures. We had been conducting extensive ethnomedicinal surveys among the folk and tribal medicinal practitioners of Bangladesh for a

number of years [1-21]. The objective of these surveys is to build up a data base, which can be utilized by scientists for developing new drugs and conducting appropriate scientific studies on the pharmacological properties of the plants. The objective of the present survey was to document the ethnomedicinal practices of Santal healers belonging to the Hembrom clan at Setabganj of Dinajpur District, Bangladesh.

EXPERIMENTAL SECTION

The Hembrom clan of the Santal tribal community was located in Setabganj in Dinajpur District, Bangladesh. The community had three tribal medicinal practitioners (TMPs). Prior Informed Consent was first obtained from the TMPs, namely Mongal Hembrom, male, age 50 years; Pobir Hembrom, male, age3 51 years; Keshab Hembrom, male, age 42 years. The TMPs were explained as to the nature of our visit and consent obtained to disseminate any information obtained both nationally and internationally. Interviews were conducted during 2015 in the Bengali language, which was spoken by both the TMPs as well as the interviewers. Actual 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 TMPs 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, collected, pressed and dried and brought to Dhaka, where they were identified at the Bangladesh National Herbarium.

RESULTS AND DISCUSSION

A total of 20 plants distributed into 18 families were used by the healers. The various ailments that they treated included decreased eye sight, pain, skin disorders, jaundice, gastrointestinal disorders, poisonous insect bites, ear infection, oral disorders, leucorrhea, helminthiasis, menstrual problems, fever, respiratory tract disorders, and chicken pox. The results are shown in Table 1. With the exception of one treatment, the TMPs did not use poly-herbal preparations. In some cases, the TMP used different plant parts from the same plant to treat different diseases. For instance, flower juice of *Spilanthes paniculata* was used to treat facial marks; leaf paste was used to treat skin diseases; paste of whole plant was orally administered for diarrhea.

A number of the plants used by the TMPs appear to be quite validated in their uses based on scientific reports. For instance, *Alternanthera sessilis*, used by the TMPs to treat body pain, has been reported to possess analgesic property [24]. *Moringa oleifera*, used by the TMPs to treat headache, has also been reported to demonstrate analgesic effects in pain-induced albino mice [25].

Some plants like *Basella alba* and *Diplazium esculentum* were used by the TMPs to increase disease resistance. If these are proved by proper scientific methods, the plants can serve an important role as future functional foods. Prevention is always better than cure, and increased resistance to diseases through possible immunomodulatory effects can play a vital role in reducing occurrence of diseases and so substantially lowering health-care costs.

Table 1. Medicinal plants and treatments of the healers of the Hembrom clan of the Santal tribe

Serial Number	Scientific Name	Family Name	Local Name	Parts used	Ailments and mode of medicinal use
1	*Alternanthera sessilis* (L.) R.Br. ex DC.	Amaranthaceae	Shanti shak	Leaf, upper stem	To increase eye sight, body pain. Leaves and upper stems are cooked and eaten.
2	*Colocasia esculenta* (L.) Schott	Araceae	Kochu shak	Sap	Skin diseases. Sap that emerges when leaf is cut off from stem is applied topically.
3	*Cocos nucifera* L.	Arecaceae	Daab, Narikel	Fruit	Facial marks following birth of child, jaundice. Following delivery, face of delivering mother is washed with water inside the fruit (coconut water). Coconut water is orally taken during jaundice.
4	*Spilanthes paniculata* Wall. ex DC.	Asteraceae	Roshun shak	Flower, leaf, whole plant	Facial marks. Flower juice is topically applied. Skin disease. Leaf paste is topically applied. Diarrhea. Paste of whole plant is orally taken.
5	*Basella alba* L.	Basellaceae	Pui shak	Leaf, stem	To increase disease resistance. Leaves and stems are cooked and eaten as vegetable.
6	*Cucurbita pepo* L.	Cucurbitaceae	Kumro	Fruit, seed	Constipation, diuretic. Fruits and seeds are orally taken.
7	*Dioscorea bulbifera* L.	Dioscoreaceae	Mach alu	Fruit	Diarrhea, poisonous insect or spider bite. Fruits are boiled and taken orally with salt.
8	*Dioscorea pentaphylla* L.	Dioscoreaceae	Shuwar alu	Fruit	Fruits are boiled and fed to pregnant women to increase protein intake.
9	*Diplazium esculentum* (Retz.) Sw.	Dryopteridaceae	Dheki shak	Leaf, stem	Physical weakness and to improve disease resistance in children. Leaves and stems are cooked and eaten.
10	*Euphorbia pulcherrima* Willd. ex Klotzsch	Euphorbiaceae	Miju gach	Leaf	Ear infection. 5-6 leaves are warmed over a fire and squeezed to obtain juice. 2-3 drops of the juice is applied inside the ears.
11	*Ricinus communis* L.	Euphorbiaceae	Vennar gach	Stem	Foul odor in mouth, bleeding from gums, weakness of gums. Teeth are brushed with stem.
12	*Hibiscus rosa sinensis* L.	Malvaceae	Shada jhumko joba	White flower	Leucorrhea. One flower is soaked in water and then rubbed inside the hand. The juice that emerges is taken orally twice daily in the morning and night.
13	*Azadirachta indica* A. Juss.	Meliaceae	Neem	Leaf	Acne, facial spots, leucoderma, constipation. Pills prepared from paste of leaves is taken orally once daily for 2-3 months. See also *Curcuma longa*.
14	*Glinus oppositifolius* L.	Molluginaceae	Tita shak	Whole plant	Helminthiasis. Whole plant is boiled in water followed by drinking the water.
15	*Moringa oleifera* Lam.	Moringaceae	Sojina	Bark	Headache. Bark juice is applied topically to forehead.
16	*Musa paradisiaca* L.	Musaceae	Kach kola	Fruit	Iron and protein deficiency and weakness in pregnant mother. Fruits are eaten in the cooked form.
17	*Nymphaea nouchali* Burm.f.	Nymphaeaceae	Shapla	Flower	Menstrual problems. One red flower is combined with 75g raisins and made into a paste. Pills prepared from the paste are taken thrice daily for 15 days.
18	*Oxalis corniculata* L.	Oxalidaceae	Amrul shak	Leaf, stem	Gastric problems. Paste of leaves and stems is taken orally.
19	*Paederia foetida* L.	Rubiaceae	Gondho vadail	Stem	Fever, mucus, loss of appetite. Stems are boiled and then crushed to obtain juice, which is taken orally with salt.
20	*Curcuma longa* L.	Zingiberaceae	Holud	Rhizome	Chicken pox. Paste of rhizomes of *Curcuma longa* and leaves of *Azadirachta indica* is applied over the whole body, kept for 10 minutes followed by taking a bath.

CONCLUSION

A number of the plants used by the Hembron clan tribal healers, especially plants used to treat diseases like pain, gastrointestinal disorders, helminthiasis, acne and other facial marks, and plants for improving disease resistance

deserve scientific attention as to their relevant pharmacological properties. Scientific validation of their uses can provide the local population a readily available and affordable means for treatment of these common diseases but for which modern care may not be available and affordable to the tribal peoples.

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