



ORIGINAL ARTICLE

Ethno-Botanical usage of Plants by the Chakma Community of Tripura, Northeast India

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ABSTRACT

The present study aimed to prepare an inventory of ethnomedicinal plants used by the Chakma tribe of Tripura state, India. Chakma people are mostly residing in deep forest and depend on their own traditional health care system. The survey was conducted during 2012 in Agartala, Tripura by interviewing the local health practitioners of the different villages of the state. In the present work a total of 19 angiosperms and one pteridophyte have been documented for folklore medicinal plants used by *Chakma tribes* of Tripura. Of these 19 angiosperms eight are herbs; one is woody tree, seven shrubs, one climber and one cactus. *Bryophyllum pinnatum* species is used for two different remedies using different methodologies. The analysis of data reveals that Bark is used for one ailment, roots are used for two ailments, rhizomes are used in two ailments, leaves are used in 13 ailments, whole plant is used in one ailment, and Stem is used in one ailment. Maximum formulations are in complex mixture of preservatives such as water, honey, salt, some other plant parts, animal products. It is also noticed that same formulation is used in two or more different diseases.

Keywords: Chakma Tribe, Ethnobotany, Local Health care practices, Tripura.

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INTRODUCTION

The aim of the present study is to revitalize the Local Health Practices of Tripura and to describe the health-seeking behaviors of tribes in Tripura, with particular reference to the use of traditional medicine and to identify the social determinants of the health seeking behaviors with respect to availability, accessibility, acceptability, efficacy and cost.

Tucked away in the hilly land of North-eastern region of India, Tripura is the inhabiting land of a number of tribes. Around 19 prominent hills of the state are clogged with tribal community and a rough estimate of 31 % of the state population counts the tribal folk. The Chaimal, Halam, Jamatia, Lepcha, Riang, Tippera and the Tripura, contribute to the sum total of the existing culture and heritage of Tripura. And the most interesting part is their cordial relation amongst each other in balancing the tradition of wood carving, bamboo and cane works. Other than using the common 'Kokborok' conversing language, other beautiful dialects help them maintain the interactive session [1]. The tribes of Tripura are highly inclined to religious and spiritual believes. With the presiding deity "Tripura Sundari" the tribal believes the place to be linked with the epic era of Mahabharata. The important tribal festival, Karchi Puja, dedicated to the 14 Gods is held every year during the month of July. In addition to the tribal folks, Bengali populace residing there also bows their head before the divine idols. The tribal women in Tripura are much more stylish than their men. Women wrap the lower portion of the body with 'Ringai' whereas they cover the upper half with 'Risa' and 'Rikuttu'. The 'Ringai' pattern and the dangling silver and metal jewelry in their body is the way to differentiate one tribes from another. Tribes in Tripura are very much fond of non-vegetarian cuisines, specially made of fermented fish. The merriment includes the boiled meat of pork, chicken, mutton, beef, turtle, fish, crabs, prawns, frogs and even dogs [2].

Chakma Tribe also known as the Changma, are the fourth largest tribal group of Tripura and they came to Tripura in the 5th century. The community also inhabits the Chittagong Hill Tracts of Bangladesh. People of Chakma Community in Tripura are found normally in the Sub-Divisions of Kailashahar, Amarpur, Sabroom, Udaipur, Belonia and Kanchanpur. Ethnically, the Chakmas are Tibeto-Burman, and are thus

closely related to tribes in the foothills of the Himalayas. Although the Chakmas are divided into several groups and sub-sections, no major difference is noticed in the manner and customs indifferent groups. The vast majority of the Chakma are followers of Theravada Buddhism, a religion that they have been practising for centuries. Chakmas speak in 'Changma Vaj' or 'Changma Kodha' - Chakma language. Many linguists consider the language a part of the Southeastern Bengali branch of Eastern Indo-Aryan language. 'Biju' is the main cultural festival of Chakma People. It is a three day long festival. Chakma's are a community with their own culture, folklore, literature and traditions. The Chakma women, like all other tribal women, are experts in weaving. They wear an ankle length cloth around the waist which is also called 'Phinon' and also a 'Khadi' wrapped above the waist as well as silver ornaments. The Chakma textiles are colourfully hand weaved with various designs. Chakma tribal group of Tripura belongs to the Buddhist faith. There are various sections in which the Chakma tribe is divided in Tripura. The Mog tribes of Tripura have come to inhabit the land in 957 AD (MSFS North East India Province) [3].

Chakma is the name of the largest tribe found in the hilly area of eastern Bangladesh known as the Chittong Hill Tracts. Their names were first used by British census-takers to describe certain hill people. When the British left India in 1947, the land was divided into two countries, Pakistan and India. (Countries and Their Cultures: Article on Chakma People). The Chakma population is estimated to be around 550,000. The majority (approximately 300,000 people) are located in the Chittagong Hill Tracts of Bangladesh. There are also about 80,000 Chakmas in Mizoram State in India, and 20,000 in Burma (Myanmar) (Indian Mirror, Tribes in India). Chakma is one of the prominent Tripura tribes. The people belonging to Chakma tribe believe in the sermons of Lord Buddha. Udaipur, Kanchanpur, Kailsahahar, Belonia, Sabroom and Amarpur sub-divisions of Tripura are the prime locations where Chakma tribes live. There are a total of 19 tribes in Tripura. All these tribal groups of Tripura have their own festivals, rituals and customs. Living on the land of Tripura from a long a time, the various tribes of the state are known for their peaceful existence. Agriculture is the main source of livelihood of all the major tribes of Tripura [4].

METHOD AND METHODS

Ethno botanical exploration was undertaken particularly in the tribal inhabitant forest areas where they live along with their own customs and traditions. During the ethno botanical survey of several herbalists, medicine men and women of Chakma tribe were first identified and visited several times to gather information on medicinal usage of plants. Such study was carried out by adopting the methodology of questionnaire where the detailed information on medicinal plants use, type of medication, disease treated and mode of treatment were collected. Direct observation, usual interaction and structured interviews were adopted to collect valid information from those herbal practioners. The remedies listed in table 1 were collected from four herbal practioners of different divisions of Tripura i.e. (Kailashahar, Amarpur, Sabroom and Kanchanpur). The four healers along with 20 participants attended the "State Level Training of Field Investigators on Documentation, Assessment and Promotion of Local Health Traditions in Tripura" from 18th-25th February, 2012 where the healers were asked several question related to their knowledge starting with signing of the Prior Consent Form to clarify whether the healer is willing to share his/her knowledge or not and then the further proceedings were done. Plants were identified by using various floras [5,6,7]. The data collected in the field were formatted and preserved carefully. Voucher specimens were prepared following the conventional methods of plant taxonomy and deposited in Botany Department of Tripura and one set to I-AIM, FRLHT, Bengaluru.

Table 1. A list of medicinal Plants used by the healers of Chakma community of Tripura along with their usage

Sl. No	Botanical name of the plants used	Family	Habit	Ailments	Dosage and Mode of Administration
1.	<i>Abelmoschus moschatus</i>	Malvaceae	Herb	Jaundice, Gastric	Bark of the tree is finely pasted, boiled and then consumed, twice per day.
2.	<i>Achyranthus aspera</i>	Amaranthaceae	Herb	Stomach ache and Abortion	Leaves are finely crushed, pasted and taken with water (half glass).
3.	<i>Adhatoda zeylanica</i>	Acanthaceae	Shrub	Chicken pox	Leaves are pasted and the paste is applied on the affected part.
4.	<i>Artimesia annua</i>	Asteraceae	Herb	Diabetes	Leaves are grinded with Luke warm water and consumed in the form of a syrup twice a day.
5.	<i>Azadirachta indica</i>	Meliaceae	Tree	Skin Diseases	Leaves are pasted and

					mixed with very little amount of water and applied on the affected part, twice a day.
6.	<i>Bryophyllum pinnatum</i>	Crassulaceae	Herb	Vomiting and food poisoning	2-3 leaves are finely pasted and mixed with ½ liter Luke warm water and taken 4-5 times per day (for infants its only 2-3 times per day.)
7.	<i>Bryophyllum pinnatum</i>	Crassulaceae	Herb	Small pox and chicken pox	Leaves are mixed with pig's teeth and horn of rhino then dipped in water and then that water is consumed thrice a day.
8.	<i>Cassia hirsuta</i>	Fabaceae	Shrub	Snake bite	Leaves are crushed and applied on the affected area.
9.	<i>Centella asiatica</i>	Umbelliferae	Climber	Blood dysentery	Roots are crushed and boiled with warm water then consumed twice a day.
10.	<i>Coccinia cordifolia</i>	Cucurbitaceae	Shrub	Diabetes, burning sensation	Leaves are crushed and its juice is consumed 2 tbsp twice per day.
11.	<i>Curcuma caesia</i>	Zingiberaceae	Herb	Sore Throat	Rhizomes are taken with honey in a semisolid form, thrice a day.
12.	<i>Desmodium triflorum</i>	Fabaceae	Herb	Paralysis	Leaves are crushed and mixed with the blood of rhinoceros and taken thrice a day.
13.	<i>Iris ranchipur</i>	Iridaceae	Shrub	Setting bone fracture	Rhizomes and leaves are grinded into a semisolid paste and applied on to the affected area.
14.	<i>Litsea glutinosa</i>	Lauraceae	Herb	Heart Disease	Leaves are mixed with the bark of <i>Terminalia arjuna</i> and boiled at 100°C and are consumed (50 ml) 3 times per day.
15.	<i>Mussaenda glabra</i>	Rubiaceae	Shrub	Anti coagulant, pain	Whole plant is finely pasted and used as an ointment.
16.	<i>Opuntia elatior</i>	Cactaceae	Cactus	Liver Disorder	Stem is crushed and mixed with warm water and then taken 2 tbsp thrice a day.
17.	<i>Phlogacanthus thyrsoiflorus</i>	Acanthaceae	Shrub	Cough and cold	Leaves are cleaned, crushed then subjected to hot iron along with the addition of salt and then consumed.
18.	<i>Piper nigrum</i>	Piperaceae	Herb	Cold, Cough and Asthma	Roots are crushed, pasted and then consumed with honey, twice a day.
19.	<i>Plumeria rubra</i>	Apocynaceae	Shrub	Blood dysentery	Leaves are crushed and mixed with honey. Thrice a day for children 2 tbps, for adults 3 tbps.
20.	<i>Pyrrrosia piloselloides</i>	Polypodiaceae	Fern	Head ache	Leaves are crushed and juice is applied on the forehead.

Enumeration

The Medicinal Plants species are enumerated alphabetically along with their botanical name, family; Habit, ailments; dosage and mode of administration are tabulated in Table 1.

RESULTS AND DISCUSSION

In present investigation, 19 angiosperms and 1 pteridophyte have been documented for folklore medicinal plants used by *Chakma tribes* of Tripura. Of these 19 angiosperms 8 are herbs, 1 is woody tree,

7shrubs, 1 climber and 1 cactus. *Bryophyllum pinnatum* species is used for two different remedies using different methodologies.

The analysis of data reveals that Bark is used for 1 ailment, roots are used for 2 ailments, rhizomes are used in 2 ailments, leaves are used in 13 ailments, whole plant is used in 1 ailment, and Stem is used in 1 ailment. Maximum formulations are in complex mixture of preservatives such as water, honey, salt, some other plant parts, animal products. It is also noticed that same formulation is used in two or more different diseases. Some of the medicinal plants species mentioned in this paper were already reported in some earlier works but purposes and method of use are different. For instance *Artimesia annua* is used as anti malarial, *Azadirachta indica* is used as pest resistant, *Litsea glutinosa* is used for white discharge, *Mussaenda glabra* is used for bone fracture. The present survey concludes that the tribal of Tripura has detailed knowledge regarding ethno-medicinal plants, their utilization in various simple to critical diseases. The promising ethno medicinal plants of Tripura are interesting and provide new medicinal plants for further ethno-pharmacological investigation on them. Such species may be utilized in the formation of new drugs because their efficacy against different ailments invites immediate attention towards herbal protection and conservation of such valuables medicinal plants. A few medicinal plants need immediate cultivation like *Phlogacanthus thyrsoiflorus* so that these could be source of revenue generation amongst the local people of this region.

CONCLUSION

The tribal living in the forest or in the close proximity of the forest are dependent upon the herbal practices due to lack of communication and negligence from both sides, cost of allopathy and have deep faith on their old treaties and tradition. The plant part such as roots leaves, stems, rhizomes are used by tribal as medicines and their knowledge of practice has come down through generations. But now-a-days this flow of indigenous knowledge from elder to younger generations is interrupted as the young generation is reluctant to learn about traditional medicinal practices. The younger generations often leaves their villages because of the profound economic changes. Indigenous practices and knowledge regarding the sustainable harvest and utilization of plant resources should be documented and preserve before they disappear, also it should be encouraged and valued for its worth and spread to all the masses to protect the distortion and disappearance of traditional knowledge.

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