

ORIGINAL RESEARCH ARTICLE

Study on the Ethnomedicinal System of Manipur

Rajesh Singh Yumnam¹, CH. Onita Devi², SantoshKumar Singh Abujam^{*3} and D. Chetia¹

¹Department of Pharmaceutical Sciences, Dibrugarh University, Assam, India

²Department of Pharmacy, RIPANS, Aizwal, Mizoram, India

³Department of Life Sciences, Dibrugarh University, Assam, India

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ABSTRACT

Manipur is a rich source of medicinal plants. People of Manipur use large number of medicinal plant species in the ethnomedicinal treatment for different diseases. The different parts of plant such as leaves, flowers fruits, roots, tubers, rhizomes and bulbs are made into their medicine for treatment of almost all the commonly occurring health problems. The plants were used either separately or as polyherbal mixture and used by Manipuri people in their ethnomedicinal system. Traditionally, certain fish species with or without plant derivatives are used against a host of ailments. The present study reports a number of 41 plant species and 7 fish species have so far been recorded from Manipur during 2009 to 2010.

Key words: Ethnomedicinal system, Treatment, Ailments, Manipur.

INTRODUCTION

Manipur, a state of northeastern India is known for its ecologically distinctive and rich biodiversity, having many endemic flora and fauna and rich cultural diversity. However, due to population explosion and various developmental activities, forests are being destroyed that results change in the composition and diversity of species, leading to a rapid loss of many important species, including rare and endemic ones. Besides, in many areas, the forestland has been converted into wasteland and the natural environment has been adversely affected. It is in this context that traditional ecological knowledge and resource management systems, practiced by the indigenous communities since ancient time, need to be properly understood and revived in order to conserve relict vegetation.

A number of workers have investigated the utility of certain plants and animals of Manipur for the treatment of diseases. Study of some Dicotyledonous plants of Manipur and recorded the names of useful plants of the state^[1]. On the other hand, important medicinal plants of Manipur were recorded^[2] while the medicinal value of some selected flora in *Loktak Lake*, Manipur were also analyzed^[3]. Similarly, investigation of medicinal plants and its uses were discussed in Manipur^[4,5] and the sacred plants species having medicinal and religious importance was reported^[6]. Recently, the economic plants of

Manipur and their uses in the traditional treatment of diseases in Manipur were studied^[7]. In another case, the ornamental fishes that were used in the traditional treatment of diseases in people of Manipur also reported^[8].

The Northeast (NE) of India has more than half of its area under hilly tracts. A large part of the region is botanically under-explored or even unexplored. The area, thus, requires a very serious and systematic ethnobotanical investigation. Many workers studied on the medicinal plants of NE region, among the notable works, the flora of Assam was recorded^[9] while noted some ethnobotanical value from northeastern India^[10]. Investigated on the certain flora of Mizoram^[11] and on medicinal marvels from Arunachal Pradesh^[12]. The potential of ethnobotanical studies in Northeast India was reported^[13] whereas the utility of ethnobotany of medicinal plant in Assam has been analyzed^[14].

Ethnobotany and ethnomedical plant studies are now recognized as the most viable method for identifying new medicinal plants and refocusing on those earlier reported for bioactive constituents. The tribal and rural people of Manipur are highly dependent on medicinal plant therapy for meeting their health care needs. This may be a source of information for scientists in their effort towards the discovery of plant based medicinal agents for treatment of various diseases.

***Corresponding Author:** Dr. SantoshKumar Singh Abujam, **Email:** santosh.abujam@gmail.com, **Phone No:** +9706837060

Because, nature has been a source of medicinal plants for thousands of years and an impressive number of modern drugs have been isolated from natural sources. The rich wealth of bio-resources and potential need proper management, conservation and development to utilize these in some suitable form for health care of the people and to develop herbal based industries. Keeping in this view, the present study deals with the ethnomedicinal treatment and folkloric treatment system of general health ailment among the peoples of Manipur.

MATERIALS AND METHODS

The study was carried out from April 2009 to November 2009. Manipur is located between 23.83° N and 25.68° N latitude and 93.03° E and 94.78° E longitudes. It comprises 1820 sq. km of flat plateau of alluvial valley and 20,507 sq. km of hill territory and forms a part of the Himalayan mountain system, which carries this cup-shaped wonderland inside its series of hill ranges. Nagaland in the north, Mizoram in the south, upper Myanmar in the east and Cachar district of Assam in the west bound Manipur. Hill ranges from all sides surround the valley portion of the state. All the hills are covered with luxuriant growth of forest with valuable plants. The ethnomedicinal information was collected as follows (i) From different representative areas of Manipur by direct interview with the people, (ii) Local traditional medicine practitioners who also cultivate the medicinally useful plants. (iii) Reports and write ups in local Manipuri language and (iv) Report of scientific investigation on the indigenous plants of Manipur. Altogether 41 plant species were identified with the help of standard keys of several workers^[15,17] whereas 7 fish species were identified^[18]. After ethnobotanical surveys, herbariums were prepared following the methods^[19,20]. The collected plant specimens were deposited to the herbarium repository of ecology laboratory of Life Sciences Department and laboratory of Pharmacognocny of Pharmaceutical Science Department, Dibrugarh University, Assam.

RESULTS AND DISCUSSION

(Table 1) shows the incidence of different ailments among the people of Manipur. The general health problems such as sore throat, running nose, cough, and fever are most common. Constipation, mouth ulcer, stomach pain, boil, toothache are other fairly complained health problems of Manipuri people. Vomiting, Dysentery, Diarrhoea are less common and could be due to various reasons such as over eating,

stomach upset, severe cold or due to other problems. High blood pressure and joint pain are also common in the people of Manipur. Ring worm, Skin diseases, Diabetes, Jaundice are also fairly common to some extent in Manipur. Piles, anemia are also reported sometimes among the people. Abdominal pain, headache, sinusitis, dizziness, nose bleeding, backache, Asthma, chest congestion, bronchitis are common health problems of Manipuri people. Some diseases are common in old age and are believed to be because of the hard work in their youth. People consult doctors only if they perceive an ailment to be unnatural for their age or sex. Such perceptions often lead to complications of health making it more difficult to cure a person.

A total of 41 plant species have been mentioned as folkloric treatment with herbal materials that are being used to cure different diseases by the people of Manipur (Table 2). Scientific name, local name, common name of the plant, parts used and method of preparation have been mentioned. All the medicinal plants reported here are available in both the valley and hilly areas of Manipur. Taking the medicine from the plant as infusion either with water, yolk of egg, milk or honey is the major mode of treatment for the general ailments in Manipur.

Interestingly, folkloric treatment utilizing materials other than herbal source are also to be noted that some edible and ornamental fish species of Manipur like *Monopterus albus*, *Acantophthalmus pangia*, *Clarias batrachus*, *Anguilla bengalensis*, *Puntius manipurensis*, *P. ticto*, *Channa orientalis* etc. have been used in the treatment of certain disease like mal-nutrition, Anaemia, hormone formation, asthma, purification of blood, stomach ulcer, and protein deficiency. These are prepared by cooking as curry or fried, after fermentation and directly given to the patient. Manipuri people traditionally use the fresh milk and milk curd for cure of stomach ulcer, hair falling, dizziness etc whereas extracted honey has been widely used in the treatment of mouth ulcer, and as brain tonic and for body complexion. These are usually prepared with the yolk of an egg and extracted juice of *Centella asiatica*. These types of folkloric treatment are widely used by the peoples of Manipur.

Considering the growing importance of ethnobotanical studies, the information on traditional medicines, preserved in hilly and valley area of Manipur, may be a valuable input in the scientific investigation. These ethnomedicinal data

may provide a base to start the search for new compounds for the phytochemist, pharmacologist and pharmacognosysts. Moreover, it may be

mentioned that over exploitation of these species in the name of medicine may lead some species ultimately to the disappearance in future.

Table 1: General health ailments of the people of Manipur

S No	Ailments
1	Fever, Cold, Cough, Tasteless, False smell, Sore throat, Joint pain, Backache, Running nose.
2	Headache, Sinusitis, Nose bleeding, Dizziness.
3	Toothache, Mouth ulcer, Soreness of tongue and mouth.
4	Dysentery, Diarrhoea, Vomiting, Abdominal pain, Stomach ulcer.
5	Boil, Skin disease, Ring worm, and Small pox.
6	Constipation, Indigestion, Piles.
7	Chest congestion, Bronchitis, Asthma.
8	B.P. Problem, Anaemia, Malnutrition, Abnormal blood circulation, Clotting of blood.
9	Jaundice, Liver disorder, Enlargement of liver.
10	Stone formation, Kidney disfunction, Problem of urinal tract, Diabetes.

Table 2: Folkloric treatment with herbal materials

S No	Scientific name & Family	Local name & Common name	Part(s) used	Preparation & Medicinal use
1	<i>Acorus calamus</i> , F: Araceae	Ok-hidak, Sweet flag	Fresh rhizomes	(a) 5-10 ml of rhizomes extracted juice is used twice daily before food during Cough and Chest congestion (b) Its aromatic smell of the rhizomes is used in the children by hanging it from their necks so that it prevent from minor cough and fever.
2	<i>Adhatoda vasica</i> , F: Acanthaceae	Nongmangkha, Malabar nut	Fresh leaves, Flowers	(a) Boiled leave juice about a half of glass is used once or twice for 2-3 days in the treatment of cough and fever
3	<i>Ageratum conyzoides</i> , F: compositae,	Khongjai napi, Goat weeds	Fresh whole parts of plant	(a) Plants are boiled with <i>Chenghi</i> (a milky liquid obtain after washing rice in water) and wet/wash the hair (kept for 5-10 mins) during bathing after then it is wash with clear and pure water again. Traditionally it is used as hair lotion.
4	<i>Allium ascalonicum</i> , F: Amaryllidaceae	Meitei tilou macha, Small onion	Leaves, Bulb	(a) About 50g of <i>Meitei tilou macha</i> with 50g of garlic are crushed together and applied to the infected area of skin boil.(b) Smached bulbs also may be applied in the toothache.
5	<i>Allium hookerii</i> , F: Amaryllidaceae	Maroi napakpi	Fresh whole parts of plant	a) Plants used for reducing High Blood Pressure. (b). Juice of leaves is mixed with salt and used in stomach ulcer (about a quarter of glass).
6	<i>Allium odorosum</i> , F: Amaryllidaceae	Maroi nakooopi	Fresh whole parts of plant	(a) Crushed leaves directly applied on the head for improving hair growth and help in reducing tension. (b) Freshed or boiled of this plant's leaves are used for normal flow of urine.
7	<i>Allium sativum</i> , F: Liliaceae	Chanam, Garlic	Fresh leaves, Bulb	(a) Crushed of bulb (about 100g-200g) after frying in mustard oil is applied to chest, throat and back as message to get relief from severe congestion of lungs due to cough.
8	<i>Alpinia allughas</i> F: Zingiberaceae	Poollei, Shell ginger	Fresh bulb	(a) Simple boiled of its vegetative parts is used for curing stomach pain, glass twice daily.
9	<i>Alpinia galangal</i> F: Zingiberaceae	Kanghu, Greater galangal	Fresh rhizomes	(a) The crushed fresh rhizomes are used for ring worm and skin disease. (b) To control high blood pressure, crushed and powder rhizomes are eaten.
10	<i>Aloe barbadensis</i> F: Liliaceae	Ghritakumar, Indian aloe	Fresh leaves	(a) Crushed fleshy leaves are directly kept on the forehead or on the front part of the head. It is traditionally used for dizziness. (b) Fresh juice of the leaves (about 20 ml) is given with a little sugar in dysentery, twice daily before the food.
11	<i>Annona squamosa</i> , F: Annonoaceae	Sitaphal, Sugar apple	Fruits, Roots	(a) Fruits are used for diabetes patients. (b) A half glass of extracted juice of crushed roots is given as Purgative, once or twice daily.
12	<i>Azadirachta indica</i> , F: Meliaceae	Neem, Margosa tree	Fresh leaves, Seeds	(a) Extracted oil from the seed is used in the preparation of insecticides with water. (b) Decoction of leaves is used as wash for ulcer and wounds.
13	<i>Benincasa hispida</i> , F: Cucurbitaceae	Torbot, Ash gourd	Fruits	(a) Simple boiled of this fruits is very helpful in stomach ulcer, 3 times a day. (b) About a glass of extracted and filter juice is mixed with 2-3 teaspoon of sugar candy & a spoon of honey for treatment of jaundice patient, thrice daily.
14	<i>Blumea balsamifera</i> , F: Asteraceae	Langthrei, Elumea or Nagal Camphor	Tender shoots, Fresh leaves	a) About a half glass of leaves juice (obtained after crushing the leaves)is taken for acidity problem. (b) Two teaspoon of such leaves juice is added to a glass of water with a little "Meitei thum" (local salt), for treatment of stone formation.
15	<i>Carica papaya</i> , F: Caricaceae	Awathabi, Papaya	Unripe or ripe fruits	(a) Unripe fruits are given to the person for reducing the toxicity in dog bite. (b) Ripe fruits are given to patient in constipation problem and laxative disorder.
16	<i>Centella asiatica</i> , F: Apiaceae	Peruk, Asiatic pennywort	Leaves, Stems	(a) About 100g of fresh vegetative parts of this plant can be taken once early in the morning for stomach treatment. (b) About a half glass of extracted juice is mixed with jolk of an egg and 1-2 teaspoon of honey. It is usually given to the young learner to improve their brain power.

17	<i>Chenopodium album</i> , F: Chenopodiaceae	Monsaobi Lamb's quarters	Leaves, Tender shoots	(a) Leaves are boiled and its soup is given in liver enlargement problems. (twice daily).
18	<i>Cynodon dactylon</i> , F: Gramineae	Tingthou, Bermuda-grass	Fresh leaves, Tender shoots	(a) About a half or a full glass of its extracted juice from its vegetative parts (leaves, stems, and roots) is used for stomach pain (in early morning once a day).
19	<i>Cyperus rotundus</i> , F: Cyperaceae	Sembang kaothoom, Nut Grass	Fresh rhizomes	(a) Extracted juice from its rhizomes is used in the treatment for fever (2-3 teaspoon twice a day). (b) Crushed rhizomes (about 50g) are given in stomach disorder and bowel irritation. (once in the early morning).
20	<i>Dactyloctenium aegyptium</i> , F: Cyperaceae	Poongphai, Crow foot	Whole parts of plants	(a) About 40 ml of extracted juice from its vegetative parts (leaves, stems, roots) is mixed with a teaspoon of honey and given in fever patient (twice or thrice per day). (b) Boil water extract is given for bath to pox patient.
21	<i>Datura stramonium</i> , F: Solanaceae	Sagoi daak, Jimson weed	Fresh or dried leaves	(a) Dried leaves are burnt and smoke is inhaled in severe asthma, applied twice daily. (b) Leaf paste with turmeric applied in chest pain, applied in bed time.
22	<i>Ficus hispida</i> , F: Urticaceae	Asi heibong, Rough-leaved fig	Leaves, Sticky latex	(a) Crushed leaves and paste is applied at the infected area of skin in ring worm. (b) White and sticky latex is applied to the boil.
23	<i>Fragaria indica</i> F: Rosaceae	Heirongkaklaba, Indian strawberry	Fresh whole parts of plant	The vegetative part of this plant is boiled with sugar-candy for about a half an hour and two glasses of extract are used after or before the meal twice daily for problem of urinary tract & stone case.
24	<i>Hibiscus rosa-sinensis</i> F: Malvaceae	Juba kusoom, China rose	Sweat from the flowers	Its extracted sweat from the flower is used to cure soreness of tongue and ulcer in mouth
25	<i>Hibiscus sabdariffa</i> F: Malvaceae	Shilosougri, Red sorrel	Fresh leaves, Dried fruits	(a). 3 g of the crushed powder of its dry coat of the fruits is mixed with a glass of water and after filter; it is used in the stone problem. (b). A glass of its extracted juice from leaves with small amount of common salt is given to the gastric problem.
26	<i>Leucas lavandulaefolia</i> F: Labiatae	Mayang lemboom	Leaves, Tend er shoots	(a) Paste of tender shoots is applied to forehead to relieve headache. (b). Extracted leaves juice is applied to the nostril of sinus patient.
27	<i>Melothria purpurilla</i> F: Cucurbitaceae	Lamthabi	Whole parts of plant	Vegetative parts of this plant is boiled with sugar candy in water and given in patient of Jaundice, Kidney infection.
28	<i>Mentha arvensis</i> F: Labiatae	Noongsi hidak, Field mint	Leaves, Tender shoots	(a) Fresh shoot juice with a pinch of common salt or a spoon of honey is given to diarrhoea patient. (b) Leaves juice is very useful in irregular menstruation.
29	<i>Meyna laxiflora</i> F: Rubiaceae	Heibi, MAY-nuh	Fresh leaves, Dried fruits	(a) Fresh leaves are used with dry fish (a fermented form of fish), with a little common salt and chilli are eaten as blood purifier. (b) Dry fruits are eaten in for boils and dysentery.
30	<i>Musa paradisiaca</i> F: Musaceae	Laphu, Banana tree	Unripe or ripe fruits, Stems, Roots	(a) Unripe fruits are eaten to cure dysentery and diarrhoea. (b) Roots and stems are cooked and eaten as tonic. (c) Raw stems are mixed with common salt, chilli and dry fish or they are cooked as an item of curry for clearance of stomach.
31	<i>Nelumbo nucifera</i> F: Nymphaeaceae	Thambal, East Indian lotus	Young leaves, Dried leaves, Seeds, Roots	(a) A mixture of the leaves of this plant, flesh prawns and young shoots of Pakhang leiton (<i>Euphorbia hirta</i>) are used in diabetes (twice or thrice daily). (b) Roots, flowers and seeds are used as medicine in diarrhoea, cholera, liver, cardiac complaints, piles bleeding and leprosy.
32	<i>Nymphaea rubra</i> , F: Nymphaeaceae,	Tharo angangba, Red water lily	Rhizomes	Crushed powder of rhizome is mixed with honey and is used to cure nose bleeding, piles, dysentery and as cardio tonic.
33	<i>Ocimum sanctum</i> , F: Labiatae,	Tulsi	Fresh leaves, Tender shoots	Extracted leaves juice is mixed with honey and given for bronchitis, stomach problem, fever, cough, cold and congestion of lungs
34	<i>Phyllanthus emblica</i> , F: Euphorbiaceae,	Heikru, Indian goose berry	Fresh & dried fruits	(a) Fresh fruits are crushed with <i>Adhatoda vasica's</i> leaves or shoots and eaten for cough, asthma, bronchitis, diarrhea and dysentery. (b) Fruits are boiled with Chinghi (a milky colour water prepared from washing rice before cooking) and applied once a day while bathing and it is washed after 5-10 minutes with fresh water.
35	<i>Polygonum posumba</i> F: Polygonaceae,	Fakpai, knotgrass	Fresh leaves	Crushed leaves of it's juice dissolved in a glass of warm water and is used for gastric problems (once or twice a day).
36	<i>Psidium guajava</i> , F: Myrtaceae	Poongtol, Guava	Young leaves	(a) Crushed tender leaves are used in wound and cut for stopping bleeding. (b) Fresh young leaves (buds) are given with a little salt in dysentery
37	<i>Sagittaria sagittifolia</i> , F: Alismaceae,	Koukha, Arrow Head, or Hawaii arrowhead	Leaves, Tender shoots, Rhizomes	(a) Fresh leaves or roots are crushed and applied in skin diseases and itch. (b) Vegetative parts are boiled with water and are used to control high blood pressure.
38	<i>Solanum nigrum</i> F: Solanaceae,	Leipung khangnga.	Fruits	Fruits are crushed, filtered and mixed with honey and the juice is used in fever, cough, mouth and tongue ulcer

39	<i>Trapa bispinosa</i> , F: Trapaceae,	Heikak, Water chestnut.	Fruits, Tender, Shoots leaves	(a) Fruits are cooling and useful in dysentery and diarrhea. (b) Fruits and vegetative parts are eaten for improving the blood circulation
40	<i>Zanthoxylum acanthopodium</i> , F: Rutaceae	Mukthroobi	Leaves, Shoots	(a) The leaves are boiled with water and is used to get relief from cough and asthma. (b) Fresh tender leaves are eaten with meal to cure tasteless and false smell.
41	<i>Zingiber officinale</i> , F: Zingiberaceae,	Shing, Zinger.	Leaves, Rhizomes	(a) Extracted juice from rhizome is mixed with honey and is used for cough and asthma. (b) Extracted juice of leaves or rhizomes is used for digestion.

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