

Traditional healing practice and folk medicines used by Mishing community of North East India

Rama Shankar, G. S. Lavekar¹, S. Deb², B. K.Sharma³

Ayurveda Regional Research Institute (CCRAS) Itanagar, Arunachal Pradesh, ¹Central Council for Research in Ayurveda and Siddha, New Delhi, ²Regional Centre of National Afforestation and Ecodevelopment Board, NEHU, Shillong, ³North Eastern Institute of Folk Medicine, Pasighat, Arunachal Pradesh, India

ABSTRACT

Assam and Arunachal Pradesh have very rich tradition of herbal medicines used in the treatment of various ailments. Tribal communities practice different types of traditional healing practices. Enough documentation is available on the healing practices in other tribal communities except Mishing community of Assam and foot hill of East Siang district of Arunachal Pradesh hence the attempt was made for the same. A survey on folk medicinal plants and folk healers of Mishing tribe was conducted in few places of Lakhimpur and Dhemaji district of Assam and East Siang district of Arunachal Pradesh, where this ethnic group is living since time immemorial. All information was collected based on interview and field studies with local healers within the community. The identification of medicinal plants collected with help of indigenous healers was done. Such medicines have been shown to have significant healing power, either in their natural state or as the source of new products processed by them. This study is mainly concentrated with plants used to cure diseases and to enquire about different healing systems. Detail note on the method of preparation of precise dose, the part/parts of plants used and method of application is given.

Key words: Ethno-medicines, ethnic groups, herbal practitioners

INTRODUCTION

The traditional medical practitioner or traditional healer can be defined as “someone who is recognized by the community in which he lives as competent to provide health care by using vegetable, animal and mineral substances and certain other methods based on the social, cultural and religious backgrounds as well as the prevailing knowledge, attitudes and beliefs regarding physical, mental and social well-being and the causation of disease and disability in the

community”. Traditional healers used different medicinal formulas from various natural substances (animal, mineral and vegetable). They have extensive knowledge on the use of plants and herbs for medicinal and nutritional purposes.

The Mishings are an ethnic group inhabiting the districts of Dhemaji, North Lakhimpur, Sonitpur, Tinsukia, Dibrugarh, Sibsagar, Jorhat and Golaghat of Assam. A few live in and around Pasighat of East Siang district of Arunachal Pradesh. They are the second largest tribal group in North-East India, followed by the Bodos. Their chief festival is Ali-Aye-Ligang, in the month of February, which marks the beginning of the sowing season.^[1]

Moreover, due to their affinity towards living close to river banks brings about Malaria and water-borne diseases and they developed traditional healing practices to protect themselves from different diseases and traditional healing practices of those days are still preferred by the people of this community in this modern era. Details of medicinal plants used in India were reported^[2] and records on Folk medicines used by Mishing tribes is lesser known.^[3-6] However, tribal communities in Arunachal Pradesh, resembling Mishings i.e. Adi, Apatani and Nyishi also use locally available herbs for treatment of ailments.^[7-12]

Address for correspondence:

Dr. Rama Shankar, Assistant Director (Botany), Ayurveda Research Institute (CCRAS), Itanagar, Arunachal Pradesh 791111, India.
E-mail: rshankar58@gmail.com

Received: 10-May-2011

Revised: 28-Jul-2011

Accepted: 04-Aug-2011

Access this article online

Quick Response Code:



Website:

www.jaim.in

DOI:

10.4103/0975-9476.100171

Traditional healing practices amongst Mishing tribes is the method to treat ailments by using herbs in form of fresh drug, crushed juice, decoction of drug part and powdered medicine for oral intake and paste for local application on skin diseases and wounds. They use locally available medicinal herbs, cultivated drugs from different habitat as well as cultivating depleting medicinal plants, They have also faith on divines and worships for cure of ailments. The study reveals detailed documentation of healing practices used by traditional healers for their community health with full faith and confidence. Malaria and jaundice being the prominent diseases in North East India are widely treated by traditional healers and 68 herbs have been recorded treating malaria and about 88 for treating jaundice.^[13]

MATERIALS AND METHODS

In folk medicine or ethno medicinal studies, the most reliable method is one involving field survey.^[14] During various field survey in forest areas and adjoining villages, villagers were consulted about their primary method of treatment during illness. After getting information about the persons involved in local healing practices authors made attempt to come in contact with these healers with an idea of exchange of knowledge gathered from established system of herbal medicine like Ayurveda and local herbs used in other adjoining community. During course of interaction knowledge about single and easily accessible compound drugs used in Ayurveda and easily available in the area was also shared with the healers to incorporate or update their knowledge itself. It involves meeting with the herbalists and experts in the field for getting first hand information. Practitioner of herbal medicines who are experts in treating in general different ailments and who are also expert in different methods of treatment were consulted for getting some first hand data. In the present study the work is restricted to some herbal-medical practitioners within different Mishing groups inhabiting in Assam and Arunachal Pradesh. The herbalists consulted were convinced about the importance of documentation of ethnic knowledge about the medicinal plants used in various curative purposes. It requires tactful handling and persuasion to bring out the information from the herbal practitioners. During course of study traditional informers on healing practices were interviewed under which in total 7 healers from Dhemaji and North Lakhimpur districts and 4 from foothills of East Siang district were interacted some of which are Mr U. C. Kardong, Mr Lakhidhar Payeng, Mr Khogen Kardong, Mrs Maloti Naro and other associated with the above practitioners. These traditional healers belong to 4 villages in North Lakhimpur and 3 in Dhemaji district of Assam and one village in East Siang district of Arunachal Pradesh. The detail information about the plants

and part used in the treatment of different ailments were collected. Plant specimens were collected for identification and herbarium preparation. While most of the plants are commonly occurring plants known to most of the people, some of the plants were identified consulting the herbarium specimen in the Botanical Survey of India (BSI), Itanagar. The detail method of the preparation of the precise dose was also collected. The herbarium specimens are preserved in the Herbarium of Ayurveda Regional Research Institute, Itanagar for authentication and future reference.

OBSERVATION

Traditional healing practice of Mishing community

Mishing community is one of the major tribal communities which are distributed from Arunachal Pradesh to plains of Assam and bifurcated from time to time due to their migration from hills of Arunachal Pradesh to plains of Assam. During this migration they developed their knowledge by acquiring from other nearby communities and used herbs available in and around their villages for various treatments of ailments [Table 1]. As per information given on system it was found that long back the responsible persons in the villages was village head called Gaon Burha in Arunachal Mishing but during these interactions more than 3 persons belonging to same or different family are involved in healing practices by developing some cultivation of herbs used in their practices and not naturally occurring in the nearby areas just like *Aloe barbadensis*, *Barleria cristata*, *Glycyrrhiza glabra* etc. Under healing practices of Mishing community general herbalist, bone setters, *Ojbas* related with *Bhoot Badba*, *Dondai* using *Mantra Tantra* etc. the herbalists and their specialization described in Table 2. Some common type of treatment like cuts and wound, sprain and skin diseases where external application is involved is practiced by all those who get affected immediately. Use of certain herbs like *Centella asiatica*, *Houttuynia cordata*, *Phyllanthus emblica* and *Terminalia citrina* is in common practice as protective medicine and is commonly sold in vegetable shops.

Presently All traditional healers of this community are not performing the same functions, nor do they all fall into the same category. Each of them has their own field of expertise. Even the techniques employed differed considerably. They have their own methods of diagnosis and their own particular medicine. By interviewing it was found that there are different types of traditional healers on basis of their expertise in north east India.

Traditional medical practitioners treat all age groups and all problems, using and administering medicines that are readily available and affordable. Their treatment is comprehensive

Shankar, *et al.*: Traditional healing practice and folk medicines used by Mishing community

Table 1: Folk medicines used by Mishing community of North east India

Scientific name	Local name	Parts used	Disease	Methodology
<i>Abroma augusta</i> L.f. Sterculiaceae	Ulatkambal	Root	Impotency and weakness	Root juice extracted in water taken orally
<i>Acacia pennata</i> (L.) Willd. Mimosaceae		Bark	Stomach ache	Bark juice is taken orally in water
<i>Acorus calamus</i> L. Araceae	Boch/Tabiz	Rhizome	Cough	Taken orally with water
<i>Adhatoda zeyanica</i> Medic. Acanthaceae	Vahak	Leaf	Cough/ Krimi	Decoction with kali marich / Juice direct use
<i>Ageratum conyzoides</i> L. Asteraceae	Kangar	Leaf	Ache on back	Leaf juice applied on affected areas
<i>Ageratum conyzoides</i> L.		Leaf	Stop bleeding	Fresh leaf paste is applied
<i>Aloe barbadensis</i> Mill. Liliaceae	Shalkuandi	Pulp	Jaundice	Pulp of 2-3 leaves ground with 50Gm Talmisri. Taken with 250 ml. milk 6-7 days
<i>Alstonia scholaris</i> (L.) Br. Apocynaceae	Satiyan gachh	Stem bark	Malaria and fever	bark of <i>A. scholaris</i> and <i>Andrographis paniculata</i> powdered and taken orally with warm water
<i>Amaranthus spinosus</i> L. Amaranthaceae	Tanduliya/ Katailichaulai	Root	Stomach pain	Boil extract of the root is used orally for stomach pain during menstruation cycle.
<i>Artemisia nilagirica</i> (Cl.) Pamp. Asteraceae		Leaf	Griping stomach pain	Taken orally
<i>Barleria cristata</i> L. Acanthaceae	Vahaka	Stem	Cough	Juice is extracted from stem bark and used orally
<i>Belamcanda chinensis</i> DC. Iridaceae	Ujakanti	Plant	Menstrual disorder	Juice is extracted from plant and taken orally
<i>Cajanus cajan</i> L. Fabaceae	Arhar Patta	Leaf	Jaundice	Fresh juice extract (1 cup) for 3-4 days
<i>Cannabis sativa</i> L. Cannabaceae	Bhang	Leaf	Loose motion	Leaf juice extracted and taken orally
<i>Cascabela thevetia</i> (L.) Lipp. Apocynaceae	Pila Kaner	Latex	Abortion	Fresh milky latex taken
<i>Centella asiatica</i> (L.) Urban Apiaceae	Manimuni	Plant	Gastric trouble, local drink for good health	Plant mixed with plants of <i>Hydrocotyle javanica</i> made into paste and used as sause and dried cake is prepared
<i>Chenopodium album</i> L. Chenopodiaceae	Jhilimili	Leaf	Digestion/ anemia	Fresh or dried leaves cooked and eaten as vegetable
<i>Chromolaena odorata</i> (L.) King and Rob. Asteraceae	Assam lota	Leaf	Clotting of blood	Paste prepared and applied on cutted areas
<i>Clerodendrum viscosum</i> Vent. Verbenaceae	Pakam	Leaf	Health tonic and Ingredient of local wine.	Mixed with other drugs and made into pills and fermented
<i>Coix lachryma jobi</i> L. Poaceae	Tapi	Grains	High pressure	Beaded grains are bore to get relief from high pressure
<i>Costus speciosus</i> (Koen) Sm. Zingiberaceae	Kushtha/ Kebuk	Rhizome	Jaundice	Fresh rhizome pasted and kept for a night in water and taken orally.
<i>Cynodon dactylon</i> L. Poaceae	Durba	Plant	Pediatric vomiting	Fresh plant of white Durba and paddy straw pasted with water used earthen container piece mixed with carbon ash deposited on the shade roof of fire place. Paste is applied over fore head
<i>Eclipta prostrata</i> (L.) L. Asteraceae	Keyaras	Plant	Jaundice	Fresh plant juice with milk used orally in empty stomach
<i>Eichornia crassipes</i> Solams Pontederiaceae	Meteka	Flower	Stomach trouble	Cooked and eaten as vegetable
<i>Euphorbia ligularia</i> Roxb. Euphorbiaceae		Stem	Finger tip pain/ boil	Finger tip is covered in the hole of 2 inch cut piece of stem
<i>Ficus hispida</i> L.f. Moraceae		Fruit	Stomach trouble	Fruit powder eaten with warm water
<i>Ficus racemosa</i> L. Moraceae	Tajik	Stem	Bone fracture	Latex of stem is coated on the bamboo strips and tied over the fractured part

(Table contd...)

Shankar, *et al.*:Traditional healing practice and folk medicines used by Mishing community

Table 1: (Continue)

Scientific name	Local name	Parts used	Disease	Methodology
<i>Glycyrrhiza glabra</i> L. Leguminosae	<i>Jashthimadhu</i>	Stem/ leaf	Throat pain, cough	Fresh stem twig and leaf chewed
<i>Gossypium harbaceum</i> L. Malvaceae	<i>Shirpak</i>	Root	skin disorders in fingers	Paste is locally applied
<i>Hibiscus rosa sinensi</i> L. Malvaceae	<i>Gokhai Aphun Javaphul</i>	Flower	Weakness	Flower mixed with Talmisri and taken orally with water
<i>Houttuynia cordata</i> Thunb. Saururaceae	<i>Masundari</i>	Root	skin disorder	Root is pasted and given in skin disorders
<i>Ipomoea aquatica</i> Forsk Convolvulaceae	<i>Karmi sag</i>	Arial plant	Eye sight	Cooked herb washed and cooked, taken as vegetable.
<i>Leucas indica</i> (L.)Br. Lamiaceae	<i>Drona</i>	Leaf	Sinusitis, pneumonia, ulcer, manustrual disorder	Leaf juice diluted in water (sinusitis). Cooked and eaten as vegetable in other diseases
<i>Lygodium flexuosum</i> Sw. Schizaceae	<i>Patifam</i>	Stem	Fracture in cock/hen	Broken leg tied over with the stem joins the fractured leg
<i>Mcaranga indica</i> L. Euphorbiaceae	<i>Erapat</i>	Rhizome	Stomach pain	Warm oil coated leaf placed over the stomach during pain
<i>Michelia champaca</i> L. Magnoliaceae	<i>Tita champa</i>	Bark	Malaria	Juice is extracted from stem bark. Powdered bark or decoction is taken orally in water
<i>Mimosa pudica</i> L. Mimosaceae	<i>Nilajji</i>	Root	Tooth worm	Paste is applied locally on infected areas
<i>Murraya koeninghii</i> Spreng Rutaceae	<i>Norsingh Gachh</i>	Leaf	Acidity/ liver tonic	Juice is extracted from leaf and taken orally with water
<i>Nyctanthus arbortristis</i> L. Oleaceae	<i>Evahgachh</i>	Leaf	Malaria / fever	Leaf juice or decoction is given orally with water
<i>Nymphaea stellata</i> Willd. L. Nymphaeaceae		Rhizome	Krimi/worm	Powdered rhizome is taken thrice a day for 4-5 days
<i>Oroxylum indicum</i> Vent. Bignoniaceae	<i>Bhatgila</i>	Stem	Malaria	Powdered bark is taken for 5-6 days
<i>Pedilanthus tithimaloides</i> (L.) Poit.	<i>Atobulo</i>	Latex	Piles	Local application
<i>Phlogacanthus thyrsoflorus</i> Nees Acanthaceae	<i>Tita vasaka</i>	Leaf	Loose motion	Juice is extracted and taken orally with water
<i>Phyllanthus amaras</i> L. Phyllanthaceae	<i>Bhui amlaki</i>	Plant	Jaundice	Fresh juice with fresh cold cow milk 1 cup for 5-6 days
<i>Physalis angulata</i> L. Solanaceae	<i>Tumpet</i>	Fruit/ leaf	Stomach trouble	Leaves and fruit are eaten
<i>Plumaria alba</i> L. Apocynaceae	<i>Gulcha phul</i>	Stem	Ear sour/ boil	Juice mixed in coconut oil extracted from stem bark
<i>Plumbago zeylanica</i> L. Plumbaginaceae	<i>Citrok</i>	Root	Jaundice	Extract of the root is applied in a cotton thread and tied on the upper arm of the patient
<i>Pongamia pinnata</i> (L.) Pierre Fabaceae	<i>Karanj</i>	Leaf	Urinary trouble	Juice is extracted from leaf and taken orally
<i>Ricinus communis</i> L. Euphorbiaceae	<i>Erapat</i>	Leaf	Stomach ache	Pounded leaf applied locally on ache areas
<i>Scoparia dulcis</i> L. Scrophulariaceae	<i>Mithasem</i>	Leaf	Digestion, fever and pain	Leaf decoction / paste for cake preparation and taken for getting relief
<i>Sida acuta</i> L. Malvaceae	<i>Boriar</i>	Leaf	Bleeding	Leaf paste rubbed on wound
<i>Solanum viarum</i> Dunal Solanaceae	<i>Katibijwan</i>	Seed	Tooth worm	Seeds are boiled and steam is applied to remove worms
<i>Sonchus oleraceus</i> L. Asteraceae	<i>Manishal</i>	Bark	Liver disorders and kidney stones	Liver disorders and removal of kidney stones
<i>Tabernemontana divaricata</i> Roxb. Apocynaceae	<i>Neelkantha</i>	Leaf	Pneumonia, cough	Taken orally with water
<i>Zizyphus mauritiana</i> Rhamnaceae	<i>Bagouri</i>	Stem	Stomach ache	Powdered bark is taken with warm water

Table 2: Types of traditional healers amongst Mishing tribes

Traditional healers amongst Mishing community	Nature of healing practices
Herbalists	Prescribing healing herbs for different illnesses and mode of application with doses locally known as Dhondai in Mishing.
Diviners,	Using prayer, candlelight or water for curing different diseases locally called as 'Mibo' in Mishing. They perform 'Dobor puja' for protecting health from any diseases.
Prophets or faith healers	Developing faith and will power to diseased persons
Traditional birth attendants	Practicing maintenance of birth records linked with good/ ill health
Veterinary specialist	Curing veterinary diseases and disorders
Bone setter	Developing specialty in bone fracture and dislocation of joints

and has curative, protective and preventive elements, and can be either natural or ritual or both, depending on the cause of the disease. It includes among others, ritual sacrifice to appease the ancestors, ritual and magical strengthening of people and possessions, steaming, purification (e.g. ritual washing, or the use of emetics and purgatives), sniffing of substances, cuts, wearing charms and piercing.

Ethno medicinal plants used by Mishing Community

The ethno medicinal information regarding treatment of different diseases collected in course of field study is presented here in tabular form for easy reference.

The study shows that Malaria, Jaundice and female menstruation problems are the prominent diseases in this community as most of the traditional healers are prescribed medicine for these treatments.

In this study, 55 medicinal plants encountered from different parts of the Mishing inhabitant area used by this community in their daily ailment from various diseases. Fifteen were trees; 8 shrubs and 30 were herbs and climbers. Different parts of the medicinal plant species were used for curing different diseases and mostly leaves (36.84%) were used followed by stem (14.03%), root (10.52%) and bark (7.02%). Asteraceae (5 species), Apocynaceae (4 species) and 3 each in Euphorbiaceae, Malvaceae and Acanthaceae were found. Some of the plants can be categorized as highly prioritized medicinal plants as they are of immense value in curing various diseases but are in the low niche. These plants are widely used under traditional healing practices but due to multiple use they are depleting from their habitat viz. *Acorus calamus*, *Costus speciosus*, *Eclipta prostrata*, *Oroxylum indicum* and *Plumbago zeylanica*. Eventually, these species are now on the freeway towards extinction due to over exploitation, road construction, encroachment of habitat by the immigrants of the neighbouring community. Local inhabitants adapted cultivating some of the locally available herbs like *Acorus calamus*, *Alstonia scholaris*, *Centella asiatica*, *Leucas indica*, *Nymphea stellata*, *Tabernemontana divaricata* and some others from habitats of different

climatic condition like *Aloe barbadensis*, *Glycyrrhiza glabra* which meet out the requirement of drugs for daily requirement. Some of the prominent herbs of the area are *Ageratum conyzoides*, *Clerodendrum infortunatum*, *Leucas indica*, *Sida acuta*, *Solanum viarum*, etc. which are commonly available in the habitat and are used for meeting out requirement of drug for treating ailments Few commonly observed trees and shrubs are *Alstonia scholaris*, *Costus speciosus* *Ficus racemosa*, *Oroxylum indicum*, *Plumaria alba*, *Ricinus communis*, etc.

Most of the plant products after formulation are used orally, whereas for skin disease and bone fracture medicines are not prescribed for oral consumption. It was found that in most of the cases the plant products are prepared with combination of some other plants or some other products. The plants uses in mixture all may not contain the properties to relief from particular disease but some might be reduced side effect on treatment.

CONCLUSION AND DISCUSSION

The traditional healing practices in Mishing tribes of Arunachal Pradesh and Assam was insufficiently documented and authors made efforts to document the healing practices used by Mishing community with details of methodology and doses. To cope up with the objectives authors made interaction with villagers in different villages in Dhemaji and north Lakhimpur districts of Assam and foot hills of East Siang district of Arunachal Pradesh to know about genuine and reliable traditional healers in the area and came in contact with 11 traditional healers who are engaged in herbal treatment. During course of interaction 55 different herbs and their parts were found using in various treatments. These herbs were belonging to herbs, shrubs and tree either from locally available sources or adapted through cultivation in their small herbal gardens. Prevalent diseases treated by the Mishing healers are Jaundice, malaria, menstrual disorders, joint pains skin diseases etc. Prior to this certain other plants used by Mishing tribes of Assam were described.^[5,6] However, most of the plants involved in traditional practice described in this paper are different and if some of the

Shankar, et al.: Traditional healing practice and folk medicines used by Mishing community

plants are reported in these communications they are for other diseases.

The description of all above mentioned plants are on the basis of ethno medicinal knowledge. Plants are used by Mishing community in different places on the basis of availability of those plants and the proper knowledge about efficacy of those plants against the particular disease. For safe uses of different medicinal plants, we need randomised clinical trials for some of the manual therapies and further research is need to ascertain the efficacy and safety of several other practices and medicinal plants. We have to develop a proper study about the traditional medicine and the ratio of curative measurement applied to different patients on the use of those plants. The study on such types of documentation is of great importance for North Eastern Institute of Folk Medicine in the sense that the Institute will get sufficient information on traditional healers and mode administration of medicine for treating ailments on one hand and sufficient tool for proving authenticity of drugs used in healing practice through pharmacology, phytochemistry and other pharmaceutical constants. Similarly services of these traditional healers are of great importance to public as they are rendering their services to public in very remote places where people are really in need of health services. These traditional healers need to be involved in all sorts of trainings to youngsters as well as refreshing their knowledge with healers of other communities. Though they are acquiring and correlating their knowledge with established records and information available with other communities. Involving cultivating and using *Aloe barbadensis* and *Glycyrrhiza glabra* is the example and availability of drugs from other climatic zones in the Crude drugs markets of major markets in Assam strengthen the concept of exchanging knowledge with other communities.

The role of government for the existence of this system of medicine should be: 1. To give due recognition to their contribution and involvement; 2. To delineate the specific scope, limit and role of traditional healers in public health promotion; 3. To undertake research and development activities; 4. To provide orientation and support to folk-healers; 5. To monitor and strengthen the role of folk-healers and to do proper follow up.

ACKNOWLEDGEMENT

The authors acknowledge the technical and financial support of

Director, Department of AYUSH, Government of India. The authors are also thankful to Mr U. C. Kardong, Mr Lakhidhar Payeng, Mr Khogen Kardong, Mrs Maloti Naro and other folk healers of Mishing community for sharing their valuable indigenous knowledge of folk medicine with us.

REFERENCES

1. Narimattam M. The Valley in Blossom: Neo-Vaishnavism and the Peoples of the Brahmaputra Valley. Guwahati: Spectrum Publications; 1988.
2. Kirtikar KR, Basu BD. Indian Medicinal Plants. Vol. 1-4. Allahabad; Lalit Mohan Basu: 1933.
3. Kanjilal UN, Das A, Kanjilal PC, De RN. Flora of Assam. Vol. 1-5. Delhi; A Von Book Company: 1934-1940.
4. Bora S, Das AK, Saikia D, Bora J. A note on the use of Ethnomedicine in treatment of diabetes by Mishing communities. *Ethnobotanical Leaflets* 2009;13:984-8.
5. Singh J, Bhuyan TC, Ahmed A. Ethnobotanical studies on the Mishing tribes of Assam with reference to food and medicinal plants-I. *J Econ Taxon Bot Additional Series* 1996;12:350-6.
6. Hajra PK, Baishya AK. Ethnobotanical studies of Miris(Mishings) of Assam Plains, In: Contribution to Indian Ethnobotany. Jain SK, editor. Jodhpur; Scientific Publishers; 1997.
7. Pal GD. Observation on ethnobotany of tribes of Subansiri, Arunachal Pradesh. *Bull Bot Survey Of India* 1984;26:26-37.
8. Pal GD. Observation on lesser known interesting tribal use of plants in Lower Subansiri district, Arunachal Pradesh. *J Econ Taxon Bot Addnl Series* 1992;10:199-203.
9. Rawat MS, Chowdhury S. Ethnomedicobotany of Arunachal Pradesh (Nishi and patani) tribes). Dehradun: Bishen Singh Mahendra Pal Singh; 1998.
10. Rawat MS, Shankar R, Singh VK. Medicinal plants and some folklores of East and West Siang district, Arunachal Pradesh, the utilisation. *Bull Medico Ethno Bot Res* 1996;17:1-7.
11. Shankar R, Rawat MS. Medico ethnobotany of Arunachal Pradesh (Papumpare, Lower Subansiri, Upper Subansiri and Kurungkumey districts). New Delhi, Itanagar: Himalayan Publisher; 2008.
12. Srivastava RC, Singh RK, Mukherjee TK. Apatani Community Indigenous biodiversity of Apatani Plateau: Learning on biocultural knowledge of Apatani tribes of Arunachal Pradesh for sustainable livelihoods. *Indian J Tradit Knowl* 2010;9:432-42.
13. Shankar R, Deb S, Sharma BK. Antimalarial plants of North east India- an overview. *J Ayurveda Integr Med* 2011; 3: (in press).
14. Jain SK, Rao S. Field and Herbarium Techniques. Jodhpur: Scientific Publishers; 1969.

How to cite this article: Shankar R, Lavekar GS, Deb S, Sharma BK. Traditional healing practice and folk medicines used by Mishing community of North East India. *J Ayurveda Integr Med* 2012;3:124-9.

Source of Support: Central Council for Research in Ayurvedic Science, Department of AYUSH, Government of India., **Conflict of Interest:** None declared.