



ETHNO-MEDICINAL PLANTS OF MANIPUR (THOUBAL DISTRICT) USED IN THE TREATMENT OF DIABETES

Amrabati Thokchom*

Waikhom Mani Girls'College, Thoubal Okram-795138. *Corresponding Author

P. S. Yadava

Waikhom Mani Girls'College, Thoubal Okram-795138.

ABSTRACT The use of herbal drugs to alleviate human sufferings is perhaps as old as the origin of man itself on this planet. Plants with medicinal properties enjoyed the highest reputation in the indigenous system of medicines all over the world. Since no mode of recording event existed in those times, there are no data on the methods of treatment practiced during that period. Some glimpses of the knowledge that existed are however, known through the various scriptures and also passed from generation to generation orally and it is the outcome of bold experimentation through trial and error method over thousands of years.

KEYWORDS : Ethnobotany ;diabetes ;traditional medicine

INTRODUCTION

The use of medicinal plants was among the earliest information to be recorded along to later generations and drugs made from medicinal plants were among the earliest items to be traded among people (Eblen & Eblen, 2001). Medicinal plants provide an efficient local aid to health care and disease free life. For all human ailments medicines are available in his environment itself. Nature has provided for its living components all they need viz. food, medicine etc. Man need not hunt for his needs. Health will not be a problem if man lives with nature. All his miseries set in when he deviates from nature (Vijayan et al., 2003).

According to a WHO estimate more than 80% of the world's population relies on traditional medicinal practices for primary health care needs (Malik et al., 1996). Recording of information on indigenous methods of treatment from traditional healers will go a long way in finding out locally available solution for health care.

Ethno medicine is a branch of science which when in practice requires a number of scientific disciplines for solving the problem pertaining to identity, purity, quality and preservation of drugs from plant and animal origin. The general biology of ethno medicine is largely descriptive. It includes the taxonomic position of the natural source of the products, the part of plant or animal yielding the drug, the scientific and common names of the biological source, the gross distinctive characterization of the parts used and the principal uses of the product in medical profession.

Traditional medicines have been providing health care to vast majority of people all over the world since time immemorial. The importance of traditional medicines which provide health services to 70-80% of world population has been emphasized by Marini-Bettelo (1980). There is also a report that over 75% of the world population is depending on local health practitioners and traditional medicines for their primary needs (Kattimani et al., 2000).

Traditional ethno medicinal studies have, in recent years received much attention due to their wide local acceptability and clues for new or lesser known medicinal plants (Tripathi, 2000) and also it is especially relevant in view of the high cost of synthetic medicines which are beyond the reach of the poor people. The indigenous health care recipes, refined on scientific principles, can be of immense help in taking natural resource based health care system to even the most deprived persons.

Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Hyperglycemia, or raised blood sugar, is a common effect of uncontrolled diabetes and over time leads to serious damage to many of the body's systems, especially the nerves and blood vessels. Globally, the number of people with diabetes has risen from 108 million in 1980 to 422 million in 2014 (Mathers and Loncar, 2006) and the disease directly caused 1.6 million deaths in 2015 (Roglic and Norris, 2018). In addition, it has been predicted that the number of diabetic patients will increase to 300 million by 2025 (R.H. Williams, P.R. Larsen 2003). The World Health Organization (WHO) projects that diabetes will be the seventh leading cause of death in 2030.

Diabetes is a serious metabolic disorder and plenty of medical plants are used in traditional medicines to treat diabetes. These plants have no side effects and many existing medicines are derived from the plants. Regarding the information of the plants used for treating diabetes, reasonable care was taken to record only dependable statements and also authenticity of the uses were repeatedly verified by way of asking different individuals. The present effort is a preliminary documentation of the plethora of very useful medicinal plants available in the state depicting a sample area. It will be more encouraging if further studies are made to substantiate the traditional claims so that it could be scientifically dependable. The further developments will in turn be an economic prop up for the local people to sensitize them for fruitful conservation efforts.

MATERIAL AND METHOD

Study Site

The Thoubal district occupies the south-eastern part of the valley which is bounded on the north west by Imphal West District, on the west by Bishnupur District, on the south-west by Churachandpur District, on the south-east by Chandel District and on the north-east by Ukhrul District taking the shape of an irregular and elongated triangle with its base facing north. The district has a total geographical area of 514 sq.km. with a population of 3,66,341 and the district ranks 4th among the nine districts of the state in order of population size where 15.34% of the total population of the state reside. The district is inhabited by several tribes and castes of which Meetei has the largest population followed Meetei-pangal.

The district lies between 23°45'N and 24°45'N Latitude and 93°45'E and 94°15'E Longitude. The average elevation is about 790 meters on an average above the mean sea level and the elevation of district decreases gradually from east to west. Though the district is a part of the valley, the area of the district is not entirely plain. Many rivers flow through district and many lakes dot its surfaces, some of which mention may be made of fishing and other episodes. In fact all important lakes of Manipur, with the exception of Loktak are located in this district.

Known local herbal medicine practitioners "Maiba" or "Maibis" of the particular area to be visited are contacted and discussed with them regarding the purpose of the study. Report with some local inhabitants, social workers were also established and their suggestion and advice were taken into consideration. Ethno medicinal information were taken by visiting the house of the medicine man "Maiba" or "Maibis" by asking structured questions regarding the plants which they use for different ailments. The local name of the plant, mode of usage, disease it cures, parts of the plant, mode of collection, processing, preparation, administration of drug, dosages etc. are noted carefully. After the revelation of information the herbal medicine practitioners locally known as Maiba and Maibis are requested to accompany in the field where those plants are grown.

In the field, the salient characteristics of the plant like habit, habitat, morphological characters, frequency of availability etc, are noted and if possible snaps of the plants were also taken. The plant or plant parts were taken for herbarium specimen. Care were taken to collect the

plant specimen with flower/fruits/spores and in case during the time of field visit if the plant does not bear either flower/fruit, then information regarding the flowering time were recorded and the plant specimen were collected when the flowering period comes.

Sometimes ethno medicinal information were also collected by taking the “Maiba” or “Maibis” directly to the field and information were gathered by identifying the plants in the natural habitat which they use for different ailments. Information was also taken from elderly people and other experienced persons through interview who are familiar with the use of ethno medical plants and practice ethno medicine among their communities.

Regarding the information of the plants used for various ailments, reasonable care was taken to record only dependable statements and also the authenticity of the uses were repeatedly verified by way of asking different individuals.

In the same way exploration trips were conducted regularly in all the seasons regularly in most part of the district so that all possible information regarding the usage of plants could be recorded. Only those plant species that could be directly indicated and collected by the traditioner healers are reported in their study.

The collected plant materials were used to prepare herbarium specimen according to conventional techniques (Jain& Rao,1977). The plant or plant parts were nicely spread out carefully on drying sheets like newspapers in such a manner that as far as possible all the parts of the specimen like leaf, flowers, mode of attachment of leaves etc. were visible. To provide proper absorption of moisture, several sheets of newspaper were required for a single specimen. After spreading one specimen, others were processed similarly and filled one above the other. A bundle of 25-30 cm height was pressed with plant press for preventing shrinkage and curling while drying and for flattening and quick drying of the specimens. The newspapers were changed daily depending upon the time taken for drying. After the specimens were dried poisoning of the specimen was done with super saturated solution of mercuric chloride.

The duly dried and poisoned specimen were mounted sheet and were identified by comparing with related published floras of the region and for authentic identification, flora and monographs have been consulted especially Flora of British India Vol.1-7 (Hooker,1872-1897); Flora of Assam, Vol.1-4 (Kanjalil et al., 1934-40); Flora of India, Vol.1-3, (Sharma et al.,1993) and finally herbarium of Botanical Survey of India, Shillong were also consulted for confirmation of specimens. After identification, the correct nomenclature were written on the herbarium sheet.

Observation

After conducting regular exploration trips in all seasons during the

year in most part of the district, ethnomedicinal information was collected. The medicinal plant species that are used ethnomedicinally by various communities are enumerated below in alphabetical order. For each plant species listed, the information is reported, Latin name as per the requirements of the International Code for Botanical Nomenclature, Family names are given in brackets in bold letters immediately after the species name, selected important synonyms wherever it is considered necessary in italics and often abbreviated. In case of genera with more than one species, the name of the family is noted against the first species and the first alphabet of the genus has been given in case of subsequent species under the same genus. The local vernacular names are given Manipuri as most of the people of different dialects living in the district serve Manipuri language as the common language after the abbreviation LN in abridged form after the names within the brackets i.e. (Man.) similarly Hindi (Hin.), as well English as (Eng.). The status (whether rare or common) and distributional range in the district (whether cultivated or wild) of the plant is given; a short description of the species is given showing the important characters only; parts of the plant used and ethnomedicinal uses including the form of preparation of herbal drugs and name of the ingredients used are mentioned where ever it is possible. The identified voucher specimens are deposited in the Herbarium Centre, Life Sciences Department, Manipur University, Manipur.

This paper provides significant ethnobotanical application of medicinal plants to cure high blood pressure and giddiness by the indigenous peoples of Manipur. We performed semi – structured interviews with the local peoples in different districts of Manipur. A total of 30 plant species belonging to different families were enumerated and documented during the survey work. The mode of application is mainly oral administration. Some of the reported species are wild and rare while some finds mentions in Indian systems of medicines.

RESULT AND DISCUSSION

Thirty plant species belonging to different families were being used by the different communities for the treatment of the diabetes are discussed in this paper and enumerated in the table here:

These plant species have been found to be used for the treatment of blood pressure by the local practitioners who have traditional knowledge about these plants. The treatments are based on the use of a single species or used as a compound preparation and the doses were variable depending upon the condition of patients and degree of illness. The study provides comprehensive information on the indigenous uses and traditional practices of the plants used in household remedies. According to a report of the World Health Organisation, over three fourth of the World population relies on the use of traditional medicine of plant origin (Rai et al., 2000). Traditional medicine has a long history and wide acceptability and the natural healthcare system is getting a great attention these days.

Sl. No.	Plant name /Family/Local Name(LN)	Status and distribution	Brief description	Part used in Ethnomedicinal uses in diabetes
1.	<i>Adhatoda vasica</i> (Acanthaceae); LN 'Nongmakha angouba'(Man.); 'Bakas' (Hin.); 'Malabar nut'(Eng.)	Common, planted as a hedge in the villages, grows wild in open situations	Tall dense shrub having many long, opposite, ascending branches. Leaves are elliptic-lanceolate, acuminate and minutely puberulous when young and glabrous when matured. Flower are white, arranged in short, dense, axillary, pedunculate spikes	Extract of the boiled leaves
2.	<i>Aegle marmelos</i> (Rutaceae) LN 'Heikhagok' (Man.); 'Bel'(Hin.); 'Stone apple' (Eng.)	Occasional, cultivated as a fruit crop.	Medium sized tree having a short thick trunk. Leaves are alternate, trifoliate or rarely digitately 5-foliate. Leaflets are ovate or oval-ovate, cuneate at the base, acuminate at tip and glabrous. Flowers are sweet-scented, stalked and solitary or few in axillary or terminal cymes. Fruits are usually globose and pericarp is nearly smooth and greyish yellow and is filled up with softer tissue. Seeds are numerous and somewhat compressed	The tender leaves is eaten raw with milk in diabetes.
3.	<i>Artocarpus lacucha</i> (Moraceae) Roxb. LN 'Hari-kokthong' (Man.); 'Barhal' (Hin.); 'Monkey jack tree' (Eng.)	Occasional, planted also grows wild in the foothills.	It is large deciduous tree with a large spreading crown having dark brown bark. Leaves are elliptic or broadly oblong, entire, abruptly and shortly acuminate. Receptacle is axillary and globose seated on short, pubescent peduncles. Fruit is yellow or orange red when ripe and is wrinkled.	Boiled extract of the bark
4.	<i>Cassia alata</i> L. Caesalpinaceae LN: 'Daopata macha' (Man.); 'Dadmurdan'(Hin.); 'Ringworm senna'(Eng.)	Planted as an ornamental by the roadside	Large shrub having very thick, finely downy branches. Leaves are sessile; leaflets are oblong-obtuse, minutely mucronate, broadly rounded and oblique at the base. Flowers are with short pedicels arranged in spiciform pedunculate racemes. Buds are yellow and the bracts are caduceous and he pods are long and ligulate	Boiled extract of the tender leaves is given orally

5.	<i>Catharanthus roseus</i> (L.) G. Don Apocynaceae LN 'Saheb lei'(Man.); 'Sada bahar' (Hin.); 'Periwrinkled' (Eng.)	Planted in the gardens as an ornamental	It is a small shrub. Leaves are opposite, simple and ovate. Flowers are in axillary clusters or solitary and pink in colour having short pedicel. Fruits are a pair of follicles which are cylindrical having many seeds.	Boiled extract of the leaves is given orally.
6.	<i>Centella asiatica</i> (L.) Urban (Apiaceae) LN 'Peruk'(Man.); 'Brahma manduki'(Hin.); Indian pennywort (Eng.)	Very common, in variety of habitats	It is a common herb having a long creeping stem rooting at the nodes. The leaves are kidney shaped, mildly toothed and palmately nerved. The flowers are in clusters of 3/4, small. Capsules are 5 valved having granulate seeds.	The plant is boiled with fruits of <i>Ficus glomerata</i> is used against diabetes
7.	<i>Clerodendrum viscosum</i> Vent. Syn. C. (Verbenaceae) LN 'Kuthap-manbi'(Man.); 'Bhat'(Hin.)	Occasional, near foothills	It is a foetid smelling shrub. Leaves are ovate, acuminate, sub-entire or denticulate and rounded or cordate at the base. Flowers are fragrant, white, having pinkish tinge, arrange in large terminal pyramidal panicles of cymes; the bracts are elliptic and acuminate. Drupes are bluish black and globose	Boiled extract of leaves.
8.	<i>Coix lacrymajobi</i> L. (Poaceae) LN 'Chaning-angouba'(Man.); 'Sankur' (Hin.); 'Jobs tears' (Eng.)	Occasional, near roadsides, foothills and wastelands.	It is tall perennial grass. Leaves are narrowly lanceolate, cordate and acuminate, with oblong and glabrous sheath. Inflorescence is spiciform raceme of a female spikelet enclosed by a basal bract through which the rachis grows out bearing the male spikelets above. Male spikelets are on a slender rachis and in pairs or threes. Female spikelet is ovoid and enclosed by a bony involucre. Grains are sub globose.	Extract of the crushed root
9.	<i>Cyperus esculentus</i> (Cyperaceae) LN 'Kaothum' (Man.)	Common in the paddy field	It is an erect, glabrous aquatic herb. Stem base is pale brown, leaf sheath is not fibrous and stem is triquetrous, smooth and finely striated. Leaf blade is shorter than the stems, linear and gradually tapering in the upper part to a fine acumen. Inflorescence is primarily umbellate. Nut is obovoid-ellipsoid in outline.	Boiled extract of the tuber is used by diabetic patients to relieve thirst.
10.	<i>Enhydra fluctuans</i> Lour. (Asteraceae) LN 'Komprek tujombi' (Man.)	Common, in moist places or floating near water bodies	It is a glabrous, marshy herb having prostrate stem rooting at the nodes. The leaves are opposite, sessile and serrate. Heads are terminal, axillary and sub-sessile.	Boiled extract of the plant (cut into pieces at the nodes)
11.	<i>Equisetum debile</i> Roxb. ex Vauch. (Equisetaceae) LN 'Lai utong' (Man.); 'Horsetail' (Eng.)	Common, in wet places and near water bodies in the hills.	The stem is scrambling and the branches are long and slender. Internodes are long and the leaf teeth are subulate-acuminate, with scarious margin. Cone is sessile on the funnel shaped tip of the branch. Sporangia are oblong.	Extract of the whole plant.
12.	<i>Ficus hispida</i> L. (Moraceae) LN 'Ashi heibong' (Man.); 'Daduri' (Hin.)	Common, in waste places.	It is small tree having hispid young shoots. The internodes and branchlets are hollow. The leaves are opposite, oblong or obovate-oblong. The figs are fascicled on the trunk or an elongated, pendulous, leafless branches. The mature figs are depressed, globose and yellow in colour.	Fresh fruit is eaten raw.
13.	<i>Flacourtia jangomas</i> (Lour.) Raeusch (Flacourtiaceae) LN 'Heitroi'(Man.); 'Paniala' (Hin.)	Common, in the foothills.	It is a small evergreen tree bearing compound spines on the trunk. Leaves are ovate or ovate-lanceolate and long acuminate. Flowers are small in lax racemes which are axillary or spring from the extremities of short lateral shoots. Fruit is globose and dark purple when fully ripe.	Raw fruit is eaten
14.	<i>Glycine max</i> (L.) Merrill (Fabaceae) LN 'Nung Hawaii' (Man.); 'Bhat' (Hin.); 'Soyabean' (Eng.)	Common, cultivate in the hills.	It is a sub erect, stout, annual herb densely covered with patent rusty hairs. Leaves are 3-foliate; leaflets are oblong, lanceolate, membranous and hairy on both surfaces. Racemes are axillary and sessile with few congested flowers. Pod is flattish, recurved, narrowed towards the base and is densely hair having brown, ellipsoid and compressed seeds with a long hilum.	The powder of dry seeds along with sugar candy or the water soaked sprouted seeds is eaten raw.
15.	<i>Hibiscus syriacus</i> L. (Malvaceae) LN 'Juba kusum angouba' (Man.)	Occasional, cultivated as an ornamental in the gardens.	It is a tall shrub having erect and slender branches. Leaves are ovoid or sub-rhomboid, the upper ones are more or less 3-lobed, toothed and nearly glabrous. Flowers are white in colour.	Decoction of the leaves
16.	<i>Hygrophila phlomoides</i> Nees (Acanthaceae) LN 'Ising langthrei' (Man.)	Occasional, in wet places.	It is herb having opposite, entire and lanceolate leaves. Stem is hirsute upwards. Leaves are narrowed at the base, sessile and whorls of flowers are hirsute and often distant. The calyx in flower is divided halfway down and teeth are linear, hispid	Boiled extract of the plant
17.	<i>Imperata cylindrical</i> (L.) Raeusch. (Poaceae) LN 'Imom' (Man.); 'Ulu' (Hin.); 'Thatch grass' (Eng.)	Common, in marshy areas.	It is perennial grass having culms that are glabrous at the base. The nodes are usually densely bearded with erect white hairs. Leaves are narrowed towards the base and taper to an acuminate tip. Inflorescence is a spike like panicle; the spikelets are lanceolate having similar spikelets in each pair.	The extract obtained by boiling the roots along with the leaves of <i>Citrus aurantium</i> is used against thirst in diabetic.
18.	<i>Ipomoea aquatic</i> Forssk. (Convolvulaceae) LN 'Kolamni' (Man.); 'Kalmisag' (Hin.); 'Swamp cabbage' (Eng.)	Common in wetlands, lakes and other water bodies	It is an annual, smooth vine having hollow stems. The leaves are oblong-obovate and arrow shaped at the base. The flowers are bell shaped and light in colour. The flowers open in the morning and most of them remained closed the rest of the day. The capsule is ovoid with a few brown seeds inside.	The boiled extract of tender shoots is used against thirst in diabetic patients.

19.	<i>Kyllinga triceps</i> Rottb. (Cyperaceae) LN 'Chumthang namthibi' (Man.)	Common in moist, waste place	It is a glabrous herb having very short rhizome. Leaves are usually shorter than the stem, linear, acute. Spikes are ovoid-oblong or sub-cylindric, usually 3 together, the middle one being the largest. The bracts are leaf like.	Boiled extract of the plant
20.	<i>Leuceaena glauca</i> Benth. (Mimosaceae). LN 'Chingonglei angouba' (Man.)	Occasional, cultivated	It is an unarmed large erect shrub or small tree. Leaves are 2-pinnate having slender rachis, the pinnae are shortly stalked. Leaflets are membranous and linear oblong. Flowers are in dense globose heads and peduncles are often geminate and slightly thickened in fruit. Pod are straight, flat and obliquely triangular at the apex and narrowed at the base.	Boiled extract of the leaves.
21.	<i>Morus indica</i> L. (Moraceae) LN 'Kabrangchak' (Man.); 'Tut' (Hin.); 'Mulberry' (Eng.)	Occasional, cultivated for feeding silk worms.	It is a moderate sized deciduous tree or occasionally a shrub. Bark is brownish with whitish blaze and exudes copious milky latex. Flower appear with young leaves. Male spike are laxly flowered and hairy while female spike are long. Fruits are ovoid or sub globose and ultimately blackish	Cooked tender leaves
22.	<i>Nelumbo nucifera</i> Geartn. (Nelumbonaceae) LN 'Thambal' (Man.); 'Kamal' (Hin.); 'Sacred lotus' (Eng.)	Common in lakes and low laying marshy areas.	It is large aquatic herb having slender, elongate, branched creeping stem sending out roots at the nodes. Leaves are membranous, orbicular, erect and radiately nerved. The petioles are long with small distant prickles. Flowers are solitary, white or rosy in colour. The peduncles come off from the nodes of the stem and are sheathing at the base.	The extract obtained by boiling the tender shoots along with <i>Phyllanthus fraternus</i>
23.	<i>Ocimum americanum</i> L. (Lamiaceae). LN 'Mayangba' (Man.); 'Kalatusi' (Hin.); 'Haory basil' (Eng.)	Common, cultivated in domestic compounds	It is a much branched herb. Leaves are elliptic-lanceolate and acute at both ends. The flowers are in close whorls in spiciform raceme having bracts that are elliptic-lanceolate, stalked and ciliate with long white hairs.	
23.	<i>Osbeckia nepalensis</i> Hook. (Melastomataceae) LN 'Yachubi' (Man.)	Common, near foothill	It is an erect shrub having quadrangular branches with adpressed-ascending stiff hairs. The leaves are oblong – lanceolate to lanceolate, acute, 5-nerved and pubescent. The petiole is very short. Flowers are white to purple in colour and are pentamerous, in terminal or upper axillary corymbose cymes. Capsules are campanulate, truncate and densely scaly.	Boiled extract of tender shoots.
24.	<i>Peristrophe ferra</i> C.B. Clarke (Acanthaceae) LN 'Ishing langthrei' (Man.); 'Artilal' (Hin.)	Common, near water bodies	It is a woody herb. Leaves are ovate-lanceolate, acuminate and pubescent. The flower are purple with only one lanceolate lobe. Stamens are of 2, one of the anther cells is slightly above the other. The filaments are hairy and capsule is ellipsoid and 4 seeded.	Boiled extract of the plant
25.	<i>Phyllanthus fraternus</i> (Euphorbiaceae) LN 'Heikruman' (Man.); 'Jaramla' (Hin.); 'Phyllanthus' (Eng.)	Very common in the wastelands and roadsides	It is a glabrous annual. Leaves are membranous, sub-sessile, elliptic-obovate, oblong or linear having rounded tip. Flowers are minute and shortly pedicelled. Capsule is depressed, globose, smooth, hardly lobed and thinly crustaceous.	Decoction of the whole plant
26.	<i>Scleria terrestris</i> (L) Fuss. (Cyperaceae) LN 'Lamthangjou' (Man.)	Very common in paddy fields and other grasslands	It is a robust herb having woody rhizome and glabrous stem. Leaves are tristichous, narrowed into a long, filiform tip, scabrid on the veins and margins. Sheath are numerous on the spreading branches of a large, stiff, pyramidal panicle. Bracts are long and linear. Fruiting glumes are 3, ovate and cuspidate.	Boiled extract of the whole part.
27.	<i>Smilax lanceaefolia</i> Roxb. (Smilacaceae) LN 'Kwa manbi' (Man.)	Rare, in the hills	It is a climbing shrub having slender and subterete branches. Leaves are membranous, sub-caudate, orbicular-oblong or oblong-lanceolate with obscure sheath. Peduncles are naked and shorter than the petiole.	Boiled extract of the roots
28.	<i>Syzygium cumini</i> (L.) Skeels (Myrtaceae) LN 'Jamhei' (Man.); 'Jaman' (Hin.); 'Java plum' (Eng.)	Occasional, cultivated	It is a tall evergreen tree with brown to reddish bark. The leaves are decussate, ovate-lanceolate having cream coloured arranged in paniced cymes. The berry is globose and is red to dark blue when ripe.	Boiled extract of seeds.
29.	<i>Thevetia peruviana</i> (Pers.) Schum (Apocyanaceae) LN 'Sambal khudop' (Man.)	Occasional, along the foothills over fences and in wastelands.	It is an erect, smooth branched shrub with milky latex. The leaves are linear and shining. The calyx is green and pointed. The corolla is yellow and bell shaped. The fruit is green and smooth	Ash of the bark is taken along with water.
30.	<i>Vangueria spinosa</i> Roxb. (Rubiaceae) LN 'Lam heibi' (Man.); 'Moina' (Hin.)	Common, near roadside and foothills.	It is a small tree bearing supra axillary spines. Leaves are opposite, sometimes ternate, ovate-elliptic, acute or shortly acuminate, glabrous or sometimes sparsely pilose beneath. Flower are greenish white, on short peduncled cymes, axillary or supra axillary. Fruit is a fleshy drupe.	Boiled extract of the fruit

CONCLUSION

During the present study it was found that the traditional knowledge about herbs was intimated mainly to the professionals i.e. the Maiba” and 'Maibi' but there is a decline in the traditional plant based health care practices. Two major factors are considered responsible for this: first by the younger generation is showing disinterest and even abandoning the age old medical practices due to advent of modern

technologies and secondly excessive extraction of herbal raw material from the wild has resulted in considerable depletion of the population of such species and one has to walk miles and miles in search of a particular plant species. At present the traditional health care system, which was once used to be lifeline of the people is seemed to be in the verge of extinction. The wealth of the information, which is mostly preserved as an unwritten *materia medica* of the ethnic communities is

seemed to be slowly fading and oral tradition of passing on knowledge from generation to generation is declining and there are many cases in which the know-how still remains a secret. This could be related to information on occurrence, characteristics, therapeutic effects, processing methods and use of plant species for treatment.

CONCLUSION:

Conservation of medicinal plants along with the traditional age old practice of ethnomedicine will be possible only with the pre condition that the policy makers become alive to this problem and take some really strong decision. Since the Environment and Forest Department has to play a major role in the initiative by virtue of being the dominant custodian of natural resource of land and forest, it should be ready for a major altitudinal change in favour of an ecosystems approach to forestry. With proper planning and a concerted effort from all the state holders, specially the Government agencies, policy markers and NGOs;s.

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