Herbal remedies of asthma in Thoubal District of Manipur in North East India

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The present study deals with 44 plant species belonging to 24 families; they have been utilized as herbal medicines for curing asthma by several ethnic communities of Thoubal district of Manipur in North East India. The plants were collected from different parts of this district with the help of the local practitioners of Meitei, Meitei-pangal and Loi communities who follow the traditional methods for curing asthma.

Keywords : Ethnomedicine, Asthma, Meitei, Meitei-pangal, Loi, Ethnic communities, Manipur.

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Introduction

Thoubal District of Manipur in the North East India occupies the south eastern part of Manipur valley which is enclosed by Manipur Eastern and Western hills forming a large interment basin, presenting a flatland topography which has been formed by the alluvial deposits. It lies between 23°45'N and 24°45'N Latitudes and 93°45'E and 94°15'E Longitudes. The average elevation of this district is about 790m above the mean sea level. Though the district is a part of Manipur valley, the area of the district is not entirely plain. The district has a total geographical area of 514 sq km. with a population of 3, 66,341 (Census of India, 2001). Many rivers flow through this district and many lakes dot its surface in which some are closely intertwined with many folk tales and stories of which mention may be made of fishing and other episodes of the love story of the legendary Khamba and Thoibi. In fact all important lakes of this state, with the exception of Loktak lake are located in this district. The district is inhabited by several ethnic communities such as Meiteis, Meitei-pangals (Muslim), aboriginal tribes like Chiru, Gangte, Hmar, Kabui, Kom, Lamkang, Maring, Paite, Simte, Tangkhul, Vaiphei, Zou and others and scheduled castes like Loi and Yaithibi and migrants like Bengalis and Nepalis have also settled in certain parts of this district maintaining their own cultures and traditions. This paper communicates the ethnomedicinal plants used especially for asthma by the different ethnic communities of Thoubal district, Manipur.

Methodology

Ethnomedicinal information of herbal remedies practiced by different ethnic communities of this district was collected through the field visits in those areas that are inhabited by different ethnic communities. The procedures for getting information differ from person to person. As for the present study, methods adopted by Jain and Goel1 were followed with slight modifications under the local context.

The collected plant species which were used by the ethnic communities were identified by comparing them with the related so-far published flora of the region; and for the authentic identification thereof flora and monographs have been consulted especially Flora of British India, Flora of Assam, Flora of India2-7 and finally herbarium of Botanical Survey of India, Shillong were also consulted for the confirmation of the specimens. After identification, the correct nomenclature, common and English names were written on the herbarium sheet and deposited in the herbarium centre of Manipur University, Manipur.

Enumeration of plants

After conducting the regular exploration trips in all the seasons during the year 2003-2006 in most parts
of this district, the ethnomedicinal information of forty four plant species used in asthma were collected and are enumerated below in the alphabetical order. For each plant species listed, latin name family names, local vernacular names in Manipuri (M), Hindi (H) and English (E) names, if available are given. Specimen number after the abbreviation HK; habit and locality of the plant followed by ethnomedicinal uses including the form of preparation and the name of the ingredients used are also mentioned where-ever it is possible.

*Achyranthes aspera* Linn. (Amaranthaceae), Khujumpere (M.), Latjira’(H.), ‘Prickly chaff flower’(E); HK 1204

It is an erect herb having a stiff stem, commonly grows near roadsides and other wastelands. The ash of the plant mixed with honey is given orally against asthma by the Meitei-pangal communities.

*Adhatoda zeylanica* Medic. syn. *A. vasica* Nees (Acanthaceae), Nongmangkha angouba (M), Bakas (H), Malabar nut (E), HK 1400

It is a tall dense shrub planted as a hedge plant in the villages or grows wild in the open country. The extract obtained by boiling the leaves along with the fruits of *Emblica officinalis* Gaertn. mixed with honey is used in asthma by the Meitei-pangal communities; boiled extract of the leaves is kept underground in an air tight container for about a week is then given in severe asthma by both Meitei and Meitei-pangal communities; the leaves of the plant, boiled along with *Ocimum americanum* Linn. leaves are taken in equal quantities and the extract obtained is also prescribed in asthma by both Loi and Meitei communities.

*Allium odorum* Linn. (Liliaceae), Maroi nakuppi (M), HK 1351

It is a tunicately bulbous herb which is commonly cultivated. The crushed extract of the fresh plant mixed with honey is given orally in asthma by the Meitei communities.

*Amorphophallus campanulatus* Blume ex Decne (Araceae), Haopan (M), Zamin kand (H), HK 1624

It is a rhizomatous herb which is cultivated as an important crop plant in the hills. The ash of the tender petiole mixed with a little sodium bicarbonate salt is given against asthma by the Lois.

*Ananas comosus* (Linn.) Merr. (Bromeliaceae), Kihom (M), Anannas (H), Pineapple (E), HK 1223

It is a herb having numerous finely toothed rosulate leaves commonly cultivated in the hill slopes. The crushed extract of the tender shoot mixed with the crushed extract of *Zingiber officinale* Rosc. rhizome and honey in 2:1:1 proportion is given against asthma by the Meitei communities. The crushed extract of the fruit after adding a pinch of sodium bicarbonate salt is kept for 24h and then it is prescribed orally in asthma by the Lois.

*Arundo donax* Linn. (Poaceae), Yengthou (M), Bara-nal (H); Giant reed (E), HK 1601

It is a tall and stout perennial plant of the grass family planted in the domestic compound. The tender shoot extract mixed with honey is prescribed orally in asthma by both Meitei and Meitei-pangal communities.

*Averrhoa carambola* Linn. (Averrhoaceae), Heinoujom (M), Rupuwanthai (Kabui), Kamranga (H), Carambola (E), HK 1120

It is a small tree, occasionally cultivated. The filtrate extract obtained by mixing the fruit juice and smashed rhizome of *Homalomena aromatica* Schott kept overnight by adding a pinch of sodium bicarbonate salt is prescribed against asthma by both Meitei and Meitei-pangal communities. The mixture extract obtained by boiling the root with a pinch of sodium bicarbonate salt and ash of *Amaranthus gangeticus* Linn. is prescribed against asthma by the Loi communities.

*Buddleja asiatica* Lour. (Buddlejaceae), Ngamurei (M), Neemda (H), White butterfly bush (E), HK 1383

It is a shrub commonly grows near the river banks and other moist waste places. Boiled extract of the plant is prescribed orally in asthma by Maring, Meitei and Meitei-pangal communities.

*Calotropis gigantea* (Linn.) R. Br. (Asclepiadaceae), Angkot (M), Ak (H), Crown plant (E), HK 1006

It is a medium sized shrub commonly cultivated as a garden plant and also occasionally grows wild. The ash of the leaves mixed with honey and water is prescribed orally against asthma by both Loi and Meitei communities.

*Citrus aurantium* Linn. (Rutaceae), Champra (M), Neemda (H), Lemon (E), HK 1058

It is a small tree commonly planted in the domestic compounds. The fresh juice of the fruit mixed with a pinch of sodium bicarbonate salt is prescribed orally in asthma by both Meitei and Meitei-pangal communities.
**Citrus latipes** (Swingle) Tanaka (Rutaceae), Heiribob (M), HK 1089

It is a medium sized tree rarely planted in the hills. The fresh extract of the fruit juice mixed with a pinch of sodium bicarbonate salt is given in asthma by the Meitei-pangal communities. The fruit juice mixed with lime water in equal proportion is also prescribed against asthma by the Meitei communities.

**Clerodendron siphonanthus** R. Br. (Verbenaceae), Charoidong (M), HK 1036

It is a small shrub commonly grows along the roadsides and foot-hill. The boiled extract of the stem mixed with honey is given in asthma by the Meitei communities.

**Colocasia esculenta** (Linn.) Schott. (Aracaceae), Lampan (M), Arvi (H), Taro (E), HK 1299

It is a tuberous stout herb which is very common in moist wastelands. The ash of the dried petiole mixed with a pinch of sodium bicarbonate salt and water is taken in asthma by both Meitei and Maring communities.

**Curcuma longa** Linn. (Zingiberaceae), Yaingang (M), Haldi (H), Turmeric (E), HK 1613

It is a rhizomatous perennial plant commonly cultivated. The rhizome is boiled along with *Tinospora cordifolia* (Willd.) Miers and the extract obtained mixed with lemon juice and common salt is given against asthma by both Meitei and Meitei-pangal communities.

**Datura metel** Linn. (Solanaceae), Sagol hidak angouba (M), Sada dhatura (H), Thorn apple (E), HK 1461

It is a short shrub which is rarely cultivated and also sometimes grows wild in waste lands. The dried leaf is smoked in asthma by the hill people.

**D. stramonium** Linn. Shagol hidak amuba (M), Dhatura (H), Thorn apple (E), HK 1462

It is a small glabrous under shrub rarely planted as an ornamental and also sometimes grows wild in the foot-hill. The dried leaf is smoked in asthma by the Meitei communities.

**Dioscorea pentaphylla** Linn. (Dioscoreaceae), Okha (M), Kanta alu (H), HK 1409

It is an extensive twinner commonly grows wild along the foot-hill. The boiled extract of the root mixed with a pinch of sodium bicarbonate salt is taken orally in asthma by both Meitei and Maring communities.

**Emblca officinalis** Gaertn. (Euphorbiaceae), Heikru (M), Amla (H), Emblic myrobalan (E), HK 1100

It is a small or middle sized tree commonly grows wild in the hills and sometimes cultivated as an important fruit plant in the valley. The fruit is boiled along with the leaves of *Adhatoda vasica* Nees and the extract is given in asthma by the Meitei-pangal communities.

**Eupatorium odoratum** Linn. (Asteraceae), Kambirei (M), HK 1192

It is a pubescent and profusely branching straggling shrub which is very common along roadsides, foot-hill and other waste places. The ash of the leaf mixed with honey and water is taken orally in asthma by both Meitei and Maring communities.

**Garcinia pedunculata** Roxb. (Clusiaceae), Heibung (M), HK 1116

It is a tall tree planted as well as grows wild in the hill. The fruit is boiled along with molasses and prescribed in asthma by both Meitei and Meitei-pangal communities. The fried seed is eaten raw in asthma by the Meitei communities.

**G. xanthochymus** Hook.f., Heirangkhoi (M), Dampel (H), HK 1090

It is a small tree commonly grows wild in waste places. The ash of the leaves mixed with water is given against asthma by the Meitei communities.

**Hedychium coronarium** var. *flavescens* (Lodd.) Carey. (Zingiberaceae), Tekhao yaikhoo amuba (M), HK 1484

It is a big herb having horizontal tuberous rootstock that are planted and also grows wild near foot-hill and other waste places. The crushed extract of the fresh rhizome mixed with honey is prescribed in asthma by Meitei, Loi and Meitei-pangal communities.

**Helianthus annuus** Linn. (Asteraceae), Numitlei (M), Surjamukhi (H), Sunflower (E), HK 1402

It is an annual plant commonly planted as an ornamental in the garden. The decoction of the leaves and flowers mixed with honey is prescribed in asthma by the Meitei communities. The ash of the seed and
flower mixed with water is taken in asthma by the Meitei-pangal communities.

*Hibiscus rosa-sinensis* Linn. (Malvaceae), Juba kusum angangba (M), Jasut (H), Hibiscus (E), HK 1149

It is an arborescent shrub commonly planted as a hedge plant and also as an ornamental in the garden. The crushed extract of the root or flower mixed with sugar candy powder is given in asthma by both Meitei and Meitei-pangal communities.

*Homalomena aromatica* Schott. (Araceae), Hongoo kakla manbi (M), HK 1131

It is a rhizomatous herb commonly grows in wasteland, foothill and also sometimes planted as a pot plant. The rhizome is crushed and dipped in fresh fruit juice of *Averrhoa carambola* Linn. and kept overnight by adding a pinch of sodium bicarbonate salt and the extract filtrate is given against asthma by both Meitei and Meitei-pangal communities.

*Lantana camara* Linn. (Verbenaceae), Namthibi /Nongbanlei (M), Desi lantana (H), Lantana(E), HK 1384

It is a hairy and spiny aromatic shrub which is very commonly planted as a hedge plant or grows wild in waste places. The boiled extract of the leaf and flowering tops is given in severe asthma by both Meitei-pangal and Loi communities.

*Leucas aspera* Spreng. (Lamiaceae), Mayang lembum (M), Chota halkusa (H), Leucas (E), HK 1332

It is a small annual herb grows wild in waste places, road sides, river banks. The boiled extract of the plant is given orally in asthma by both Loi and Meitei communities.

*Ligustrum compactum* Hook.f. (Oleaceae), Uyangan (M), HK 1542

It is a small tree commonly grows wild in waste places and forest areas. The extract obtained by boiling the leaves along with the leaves of *Citrus aurantium* Linn., bulbs of *Allium ascalonicum* Linn. and a local fish Ngakha meingangbi (*Puntius phutunio*) is given orally in asthma by both Meitei and Meitei-pangal communities.

*Mesua ferrea* Linn. (Clusiaceae), Nageshwar (M), Nag kesar (H), Iron wood (E), HK 1391

It is a middle sized glabrous tree occasionally planted as an ornamental and also grows wild in the hills. The boiled extract of the flower mixed with honey is given in asthma by the Meitei communities.

*Musa sapientum* Linn. (Musaceae), Lafu (M), Kela (H), Banana (E), HK 1313

It is a stout and erect herb which is very commonly cultivated in homestead compound.

The extract of slightly roasted stem mixed with honey is given in asthma by the Loi communities.

*Ocimum americanum* Linn. (Lamiaceae), Mayangba (M), Kalatulsi (H), Hoary basil (E), HK 1330

It is a much branched herb commonly cultivated in domestic compound. The extract obtained by boiling the leaf along with the leaves of *Adhatoda zeylanica* Medic. taken in equal quantities is prescribed in asthma by both Loi and Meitei communities.

*O. sanctum* Linn. Tulsi (M & H), Sacred basil (E), HK 1521

It is an annual commonly planted for worship by every Meitei family. The leaf of the plant is boiled with milk and sugar and the resultant filtrate soup is given in asthma by both Loi and Meitei communities.

*Oroxylum indicum* (Linn.) Benth. ex Kurz (Bignoniaceae), Shamba(M), Ullu (H), Trumpet flower (E), HK 1467

It is a small or middle sized tree grows wild in open places and scrub forest areas. The decoction obtained after boiling the bark along with the gall bladder of Bear is taken in asthma by the Meitei-pangal communities.

*Sida acuta* Burm. f., (Malvaceae), Uhan nakuppi (M), HK 1655

It is an annual herb very commonly grows on the waste lands. Boiled extract of the root is given in asthma by the Meitei communities.

*S. cordifolia* Linn., Uhan nakuppi (M), Barial (H), HK 1656

It is a small undershrub commonly grows in wastelands and roadsides. The uses are more or less similar to *Sida acuta* Burm. f.

*S. rhombifolia* Linn., Uhan nakuppi (M), Bhiunli (H), Yellow barleria (E), HK 1546

It is a perennial sturdy plant very commonly grows wild in the waste lands. The uses are more or less similar to *Sida acuta* Burm. f.

*Solanum myriscanthum* Dunal (Solanaceae), Khanga achouba (M), HK 1199

It is a herb commonly grows wild in the wasteland, roadsides. The boiled extract of the crushed fruit is prescribed orally in asthma by both Meitei and Meitei-pangal communities. The fruit is boiled along with the leaves of *Adhatoda vasica* Nees and the extract obtained is prescribed in asthma by the Meitei-pangal communities.

*S. surattense* Burm. f., Leipung khanga (M), Kateli (H), Yellow berried nightshade (E), HK 1658

It is a perennial herb grows wild in the wasteland. The boiled extract of the fruit mixed with honey is
prescribed orally in asthma by almost all the communities.

*Terminalia chebula* Retz. (Combretaceae), Manahi (M), Harra (H), Chebulic myrobalan (E) HK 1343

It is a large deciduous tree commonly grows wild in the hills. The fruit is eaten raw with common salt in asthma by both Meitei and Meitei-pangal communities.

*Tithonia tagetifolia* Desf. (Asteraceae), Lam numitlei’ (M), HK 1296

It is a large herb commonly grows wild in the hill. The ash of the plant mixed with water is prescribed orally in asthma by the Meitei communities.

*Zingiber cassumunar* Roxb. (Zingiberaceae), Tekhao-yaikhu (M), HK 1507

It is a herb having elongated leafy stems and horizontal tuberous rootstocks which is commonly cultivated as well as grows wild in the grassland of foot-hill. The boiled extract of the rhizome is given in asthma by both Meitei and Meitei-pangal communities.

*Z. officinale* Rosc., Shing (M), Adrak (H), Ginger (E), HK 1466

It is an aromatic herb very commonly cultivated. The fresh crushed extract of the rhizome mixed with honey is prescribed in asthma by the Meitei-pangal communities.

**Discussion**

Asthma, a disease characterized by wheezing, difficult breathing, coughing and feeling of suffocation is prevalent in all ages. To treat it, the local medicine men have traditional remedies which possess considerable empiric and endemic knowledge of the therapeutic properties of local plants. Forty four plant species discussed in this paper have been found to be used for the treatment of the disease by the local practitioners who have traditional knowledge about these plants. If one herb does not cure the disease, another plant is used for the purpose. The treatments are either 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.

At present the traditional health care system which was once used to be the lifeline of the people seems to be in the verge of extinction. The wealth of information preserved as an unwritten Materia Medica of the ethnic communities seems to be slowly fading and the oral tradition of passing on knowledge from generation to generation is declining and there are many other cases in which the knowledge still remains a secret. In the recent years due to the influence of modern civilization, people have given up their old age cultures, traditions, etc. and also many of the valuable plants whose products had been used in the district traditionally for curing various diseases are also disappearing along with forest degradation in which the most harmful factors being the practices of shifting cultivation for which vegetational areas have to be cleared with the failure even for the secondary growth. Moreover, the extensive felling of trees for timber, fuel, preparation of land for terrace cultivation and human settlement by using fire have also threatened the valuable plants and the younger generation is showing disinterest in this venture and abandoning the age old practices due to the advent of modern technologies. Thus, documentation and preservation of the traditional knowledge are the great challenges of the hour, otherwise the vast knowledge will be wiped away with the death of the medicinal practitioners.

**Conclusion**

The local healthcare tradition particularly that of the communities and their practitioners in this district is of self reliant nature where the traditional healing knowledge has been inherited and transmitted by the words of mouth from generation to generation. The tradition is entirely autonomous in character and rooted in communities, social traditions and knowledge systems and therefore, it is holistic and very comprehensive in their approach. This ethnomedico-botanical data will serve as useful basic information to the chemists and pharmacologists for detection and isolation of bioactive compounds for the development of drugs of herbal origin in curing asthma.

**References**

4. Bor NL, Flora of Assam, Vol. 5 (Gramineae), Government of Assam, 1940.