



Survey of ethnomedicinal plants and its uses by the konyak tribe in Mon district, Nagaland, India

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Abstract

The main objective of the study is to collect the information relating to traditional medicine and healing practices of the Konyak tribe in Nagaland, India. This study mainly focuses on different types of traditional medicine that has been used by the ethnic group of the Konyak Naga tribe for years. The Konyak people of this hilly region are mainly dependent on the forest, as forest plants are gathered for food, herbal medicine, spices, fuel, etc, which have built up their socio-economic and cultural life. An extensive collection of verbal information was conducted on the usage of various species of plants that are used by the local people of Mon district. This paper highlights the ethnomedicinal uses of 54 different species of plants used by the Konyak tribe.

Keywords: ethnomedicinal plants, konyak tribe, Mon district, Nagaland

Introduction

The knowledge of the traditional medicine and healing practices is as old as the humanity as dates back to the beginning of the civilization and has been an integral part of semi-nomadic and agricultural tribal societies, although the archaeological evidence dates back to around 6000 BC only [13].

Traditional knowledge may compliment scientific knowledge by providing practical experience living within ecosystems and responding to its change [1]. Konyak is one of the major tribes of Nagaland predominantly inhabit in the Mon district of Nagaland, India. Mon district has an area of 1,786 sq km with population of about 2, 50,671 as per 2011 Census of India. Mon district comprises of northern Tropical wet evergreen forest type and the forest resource constitutes about 89 percent of total geographical area of the district. People in the district are highly dependent on forest and its produce; people have been preserving and utilizing various extracts and medicines from forests for their daily needs [14]. The people mostly depend on agriculture for their livelihood and the major crops grown and cultivated are rice, maize, and millets of which rice is the staple diet of the people [15].

The people have an aged old unique food habits for their nutritional support and healthcare. There are varieties of medicinal herbs and shrubs, eatables plants which are of great botanical value. The selection and utilization of different plant species for healthcare is very diverse and unique among the

communities with rich culture and traditional knowledge system related to the used of medicinal plant. There are various reports on treating ailments in Naga society [2-12]. Although the used of different medicinal plants has been reported in this study, many more ethno medicinal plants used by the Konyaks are yet to be explored.

Materials and Methods

Mon district is the northernmost district of Nagaland. It is bounded by the state of Arunachal Pradesh to its north, Assam to its west, Myanmar to its east, Longleng district to its south-west and Tuensang district to its south. Information about the plants were recorded with regards to their vernacular names, plant parts used, process of preparation of medicine, either individually or in combination with other plant parts, and modes of application were also collected.

Enquiry were made to document the traditional uses of the herbs, purpose of its uses and the parts of the plants used, and also information relating to their habits and mode of usage were also recorded, along with different pictures of the plant. For triangulating the data collected, all discussions were audio-taped. The prior informed consents were obtained from the village/community heads while documenting the traditional medicinal uses.

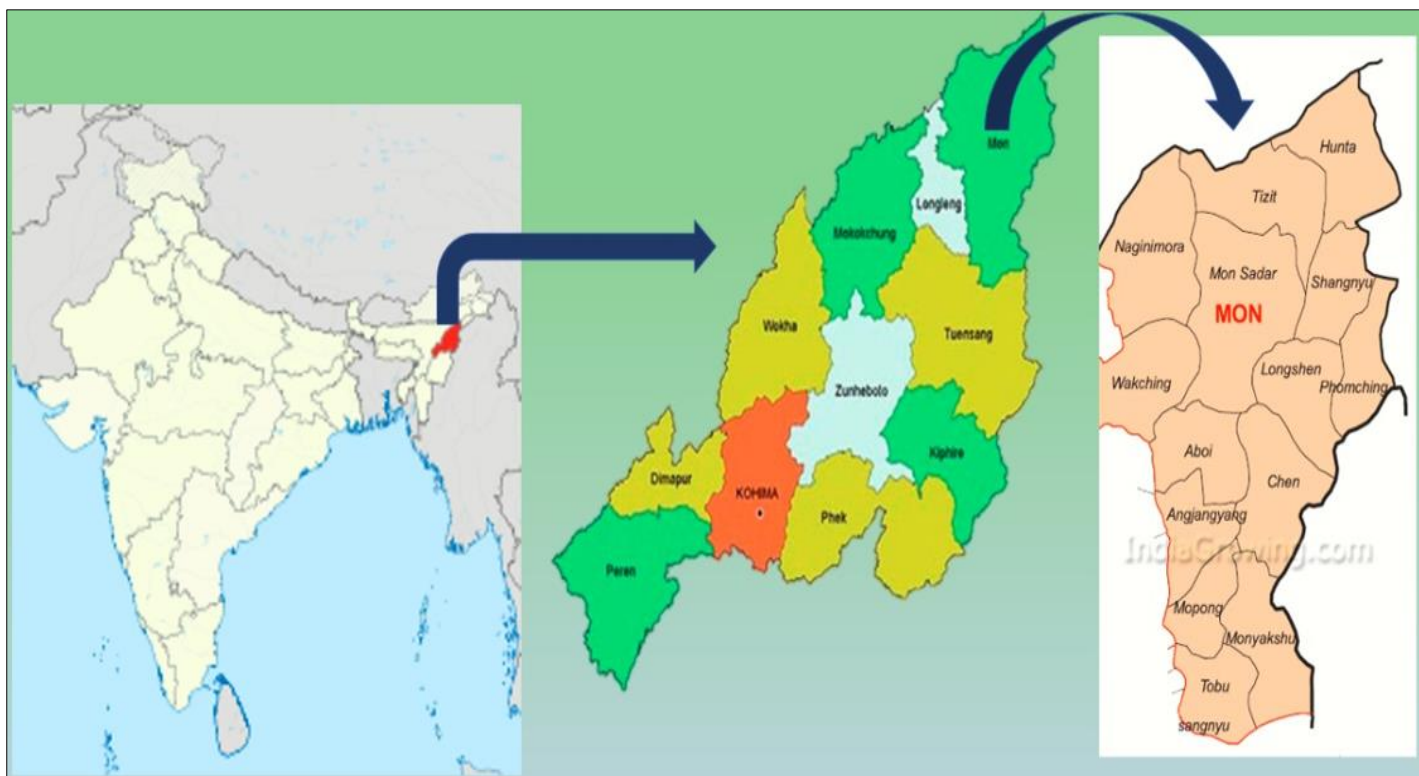


Fig 1: Map Location of the study area

Results and Discussion

A total of 54 medicinal plants having 35 families are recorded in this work. The information on scientific name, family, local name, habits, plant part used, mode of usage and therapeutic uses of recorded plants are given alphabetically in table 1 and photographs of some plants are given in figure 2 to 27. From 54 plant species the prime parts of the plant used were 57.40% leaves, 12.96% rhizomes, 9.25% fruits, 7.40% seeds and whole plants and 1.85% stems, flowers and twigs. The present study shows that almost all plant parts are used as medicine. The most used plant parts for curing disease are leaves followed by rhizomes, fruits, seeds, whole plant, stems, flowers and twigs.

Shrubs are the major sources of medicines followed by herbs, trees, weeds and climbers. These plants are used for curing number of diseases, maximum number of plants are used for curing diseases like dysentery and diarrhea, wounds and cut, headache, skin diseases, tooth ache, cholera, gastric blood pressure, snake bites, fever, cough, stomach problem, malaria and throat problem while minimum number of plants are used to cure rheumatism, jaundice, eye diseases and urinary disorder which are included together in others category. It is observed that single plant may be used to cure many diseases such as *Adhatoda zeylanica*, *Croton oblongifolius* and *Ageratum conyzoides*.

Table 1: List of Medicinal Plants and Its Traditional Uses.

Sl. no	Scientific Name	Family	Vernacular Name	Plant parts	Mode of usage	Traditional uses
1.	<i>Adhatoda Zeylanica</i>	Acanthaceae	Tippoho	Leaves	Leaves are warmed and then rubbed on the body	Rheumatic pain,
2.	<i>Ageratum Conyzoides</i>	Asteraceae	Kukdih	Leaves	Leaves are squeezed and applied to cuts and wounds for quick healing	Cuts and wounds
3.	<i>Allium bakeri</i>	Liliaceae	Teihsa	All parts of plants	Eaten to directly after wash and eaten as vegetables	cholera and stomach pain
4.	<i>Alstonia Scholaris</i>	Apocynaceae	Meipoapen	Whole plants	Eaten to treat Cholera and stomach pain	Cholera and stomach pain
5.	<i>Amomum dealbatum</i>	Zingiberaceae	Elaiji	Rhizomes, stem	Stem are eaten raw	Diarrhoea and dysentery
6.	<i>Ananas comosus</i>	Bromeliaceae	Wansaa	fruits	Young fruits	Abortive purpose
7.	<i>Aphanamixis polystachya</i>	Meliaceae	Oyupen	leaves	Warmed juice of leaves	Skin disease
8.	<i>Azadiracta indica</i>	Meliaceae	Neepen	Leaves	Boiled and drink directly and soak the leaves and bath to treat viral fever	Malarial fever, wounds, skin diseases
9.	<i>Begonia picta</i>	Bigoniaceae	Susumeipoa	Leaves	Warmed juice of a leaves	Mouth ulcer & bristle on the tongue
10.	<i>Bryophyllum pinnatum</i>	Crassulaceae	Jaktetnu	Laeves	Make paste of the leaves	Cuts, burns and injuries
11.	<i>Calamus tenuis</i>	Arecaceas	Zeaasa	Fruits	Eaten directly	Mouth ulcer, gastritis

12.	<i>Carica papaya</i>	Caricaceae	Omita	Fruits	Eatable fruits	Gastric & urinary disorder
13.	<i>Cassia alata</i>	Caesalpiniaceae	Apameipoa	Leaves	Crushed leaves into powder	Skin diseases specially ringworm
14.	<i>Celosia argentea</i>	Amaranthaceae	Onnumeipoa	Flowers, leaves and roots	Flowers and roots are boiled and drink	Skin rashes, itching
15.	<i>Comellia sinesis</i>	Theaceae	Khalappen	Leaves	Leaf are made into juice	Dried leaf is chewed to remove foul smell from mouth, juice applied to cuts and wounds
16.	<i>Centilla asiatica</i>	Apiaceae	Puseannatu	Leaves	Leaves are eaten directly	dysentery, cholera, stomach-ache
17.	<i>Crassocephalum crepidiodes</i>	Asteraceae	Hingpoa	Leaves	Leaves juice	Cuts and wounds
18.	<i>Croton oblongifolius</i>	Euphorbiaceae	Phaopen	Whole plants	Ground & paste	Snakebites & bites of poisonous insects
19.	<i>Curculigo capiculata</i>	Amarylaidaceae	Chakphea	rhizomes	Peeled and soaked in water	Eyes diseases
20.	<i>Curuma angustifolia</i>	zingiberaceae	kakpongsteanu	rhizomes	Juice by crushing & paste	Rubbed on swelling of body, Paste is bound with cloth on fractures
21.	<i>Clerodendrum colebrookinum</i>	Lamiaceae	Mangmikjak	Shoots part of leaves	Decoction	Treat malarial fever
22.	<i>Cymbopogen citratus</i>	Poaceae	Pussimaksi	Leaves & roots	Boiled in water used for bathing	Treat insect bite, Severe fever and headache
23.	<i>Diospyros lanceifolia</i>	Ebenaceae	penzeak	seeds	Crushed seeds	Skin diseases
24.	<i>Drymaria diandra blume</i>	caryophyllaceae	Kanammiasa	Leaves	Crushed and ground applied	Insects bites, remove stinging hairs of caterpillar
25.	<i>Eupatorium adenophorum</i>	asteraceae	Kukdihpoa	Leaves	Leave juices	Cuts and injuries
26.	<i>Eurya acuminata</i>	Theaceae	Penpoa	Leaves	Crushed young leaves	Cholera, dysentery and stomach disorder
27.	<i>Gonatanthus pumilus</i>	Araceae	Meisaa-toa	Leaves	Crushed and ground of juice leaves	Applied to wounds
28.	<i>Hedyotis scandens</i>	Rubiaceae	Hingzang	Leaves	Crushed and ground leaves juice	Rubbed on skin
29.	<i>Houtluyia cordata</i>	Saururaceae	Baolaphing	Whole parts	Crushed and squeeze or decoction	Cold and fever stomach-ache,
30.	<i>Hypericum monanthenum</i>	Hypericaceae	Hingpoa	Whole plants	Washed, crushed and juices is filtered through fine cloth	Treat eyes diseases and painful eyes.
31.	<i>Kalanchoe laciniata</i>	Crassulaceae	Chaktetnu	Leaves	Leaves juice rubbed on skin	Relieves pain
32.	<i>Lasia spinosa</i>	Araceae	Shoasui	Leaves	Crushed leaves	Cuts and wounds
33.	<i>Manihot esculenta</i>	Euphorbiaceae	Penkhen	Leaves	Crushed and grounded leaves juice	Skin diseases
34.	<i>Mikania micrantha Kunth</i>	Asteraceae	Zhusaa	leaves	Applied freshly prepared crushed and squeeze juice	Cuts, injuries, skin disease
35.	<i>Mirabilis jalapa</i>	Nyctaginaceae	Marvelmeipoa	Leaves	Make paste	Applied on wounds, ringworm, piles
36.	<i>Mimosa pudica</i>	Fabaceae	Pooyip	Leaves	Leaves decoction drink to treat jaundice, make paste and applied at the pain area	Joint pain, arthritis, Jaundice
37.	<i>Myrica esculenta</i>	Myricaceae	Phao-opey	Fruits	Eaten directly	To treat indigestion
38.	<i>Myrioneuron nutans</i>	Rubiaceae	Niktu	Stem	Stem are cuts into pieces kept in water and transparent juice which oozes from cut	Used for eyed foe various eyes diseases
39.	<i>Osimum basilicum</i>	Lamiaceae	Hingseabuzia	Leaves& flower	decoction	Cough, stomach-ache, Dysentery
40.	<i>Physalis peruviana</i>	Solonaceae	Poanan	Leaves	Leaves eaten raw or boiled or decoction	Dysentery and diarrhoea
41.	<i>Pougulzia viminea</i>	urticaceae	Hingzang	Young twigs	Ground to paste applied to wounds for quick healing	Cuts and wounds
42.	<i>Psidium guajava</i>	Myrtaceae	Pantsaa	Barks & leaves	Decoction of bark and leaved boiled and decoction used to bath	Bark decoction used for stomach-ache and leaves decoction used for high fever and headache
43.	<i>Rhus semialata</i>	Anacardiaceae	Omah-zeak	Seeds	Eaten directly or powder and mixed with little salt	Stomach-ache, indigestion and skin diseases
44.	<i>Schima wallichii</i>	Ternstroeniaceae	Yamuk-zeak	Bark	Bark are dried in the sun, powdered and feet cattle to killed intestinal worm	Stomach-ache, intestinal pain
45.	<i>solanum kurzii</i>	solanaceae	Kamkhah	Fruits	Bitter fruits eaten directly or cooked	Treat malaria

46.	<i>Solanum myriacanthum</i>	Solanaceae	Thohkhah	Fruits	Fruits are burns on fire and place it on toothache but shouldn't eaten	Treat toothache
47.	<i>Sonchus asper</i>	Asteraceae	Shoasui	Leaves	Crush juice leaves applied directly to cuts and wounds	Cuts and wounds
48.	<i>Solanum virginianum</i>	Solanaceae	Khahsaa	Fruits	Boiled and eaten with food	Gastritis, Fever, high pressure
49.	<i>Stachytarpheta jamaicensis</i>	Verbenaceae	Jonghing	Leaves	Dried leaves powder formed	Stomach-ache, cholera & dysentery
50.	<i>Tithonia diversifolia</i>	Asteraceae	Poanannu	Leaves	Decoction	Fever, Dysentery
51.	<i>Thunbergia grandiflora</i>	Acanthaceae	Tsavat-meipoa	Leaves	Leaves ground into paste mixed with eggs and taken for gastric	Gastric
52.	<i>Vitex negundo</i>	Verbenaceae	Phaohing	Leaves	Leaves boiled in water and warm vapour inhaled by covering the whole body with blanket	Cold and fever
53.	<i>Zanthoxylum armatum</i>	Rutaceae	Tsassa	Leaves, seeds	Eaten directly	Stomach-ache
54.	<i>Zingiber officinale</i>	Zingiberaceae	Khingtsea	Rhizomes	Eaten directly for throat pain	Juice of rhizomes given to pregnant woman just before delivery to reduce labour pain

Table 2: List of families with number of medicinal plant from Mon district, Nagaland

Table 3: Number of plant species habits wise used for medicinal purpose

Sl. No	Families	No. of species
1.	Acantaceae	2
2.	Asteraceae	4
3.	Liliaceae	1
4.	Apocynaceae	1
5.	Zingiberaceae	4
6.	Bromeliaceae	1
7.	Meliaceae	1
8.	Rutaceae	1
9.	Bigoniaceae	1
10.	Verbenaceae	3
11.	Asclepladiaceae	1
12.	Solanaceae	3
13.	Theaceae	2
14.	Lamiaceae	1
15.	Rubiaceae	2
16.	Poaceae	2
17.	Hypericaceae	1
18.	Ebenaceae	1
19.	Caryophyllaceae	1
20.	Ternstroeniaceae	1
21.	Caricaceae	1
22.	Anacardiaceae	1
23.	Caesalpiniaceae	1
24.	Myrtaceae	1
25.	Apiaceae	1
26.	Urticaceae	1
27.	Chenopodiaceae	1
28.	Plantaginaceae	1
29.	Vitaceae	1
30.	Passifloraceae	1
31.	Araceae	3
32.	Euphorbiaceae	2
33.	Amaryleidaceae	1
34.	Crassulaceae	1
35.	Myricaceae	1

Sl. No	Habits	No. of species
1.	Tree	12
2.	Herb	14
3.	Shrub	16
4.	Weed	6
5.	Climber	1

Table 4: Distribution of plant parts used for medication

Sl. No	Plant parts used	No. of species	Percentage
1.	Leaves	31	57.40%
2.	Fruits	5	9.25%
3.	Stem	1	1.85%
4.	Rhizomes	7	12.96%
5.	Seeds	4	7.40%
6.	Flower	1	1.85%
7.	Twig	1	1.85%
8.	Whole plants	4	7.40%
	Total	54	100%

Table 5: No of species used for treatment various diseases

Sl. No.	Traditional uses	No. of species
1.	Dysentery and Diarrhea	5
2.	Stomach-ache	12
3.	Snakebites	1
4.	Cuts and wounds	13
5.	Skin diseases	10
6.	Headache	2
7.	Fever and cough	9
8.	Malaria	3
9.	Tooth ache	2
10.	Cholera	6
11.	Gastric	2
12.	Others	9

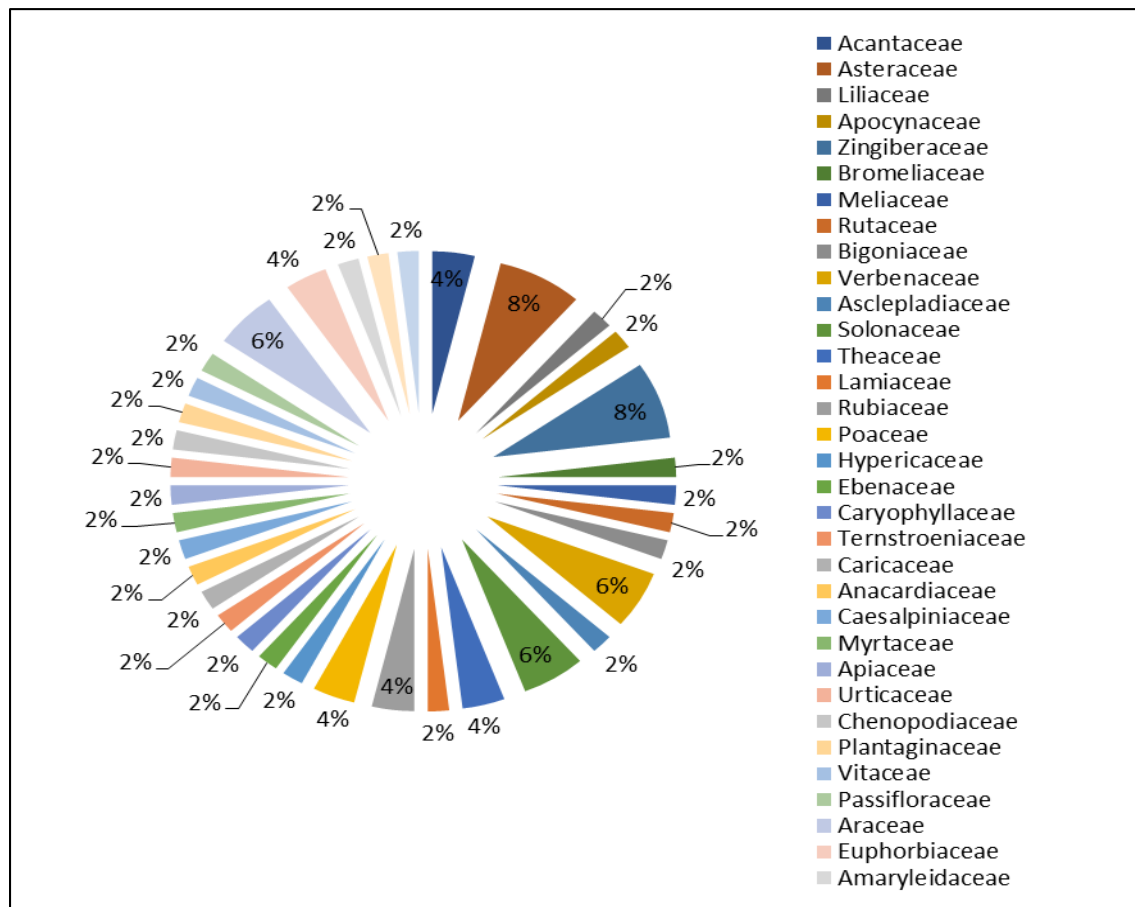


Fig 2: Bar diagram showing percentage of families

Conclusion

The present study reveals that people of Mon district have extensive knowledge of medicinal plants which can be dependent for the treatment of various ailments. It has also been expected that most of the people still depends on the herbal remedies for day to day health. Use of medicinal plants by the Naga people specifically the Konyak tribe has a long history and here we have reported 54 medicinal plant species used in the traditional health care system by the Konyak. In this comprehensive study about the traditional healing practices by the Konyak tribe, the study might give basic information for further knowledge and studies related to medicinal plants of Nagaland.

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