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RESEARCH ARTICLE

Folklore Claims of Ethno-Medicinal Plants Used by Ethnic People of Kohima District, Nagaland, India

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Abstract

Objectives: Investigation based on ethno botanical to gather the data on medicinal plants in Eastern Himalayas (Kohima district, Nagaland) was carried out in Kohima District, Nagaland. For the purpose of collecting information from the Naga tribes, an integrated approach involving botanical collections, group discussions, and interviews with questionnaires is used. **Methods:** The naturally growing or wild plants of the study area are used by many tribal people as food and medicine sources. Based on ancient methods of treatment using ethno-medicine, different types of trees, shrubs, herbs, and underground modifications such as roots, stalks, bark, leaves, flowers, fruits, and seeds have high value. **Findings:** In this study, a total of 60 ethno-medicinal plant species from 34 families are documented. There was documentation of the botanical name, family name, common name, local name, parts used, and medicinal applications. For treating illnesses, plant parts were usually preferred in the form of extract juice, extract, paste, or powder. The fresh parts of the plant were generally used to make medicines. **Application:** The acknowledged ethno-medicinal plants were found to be typically used to alleviate diseases, injury, rheumatic joins, diabetes and asthma. The indigenous knowledge available to these people are critical in detecting natural resources quickly and correctly.

Keywords: Medicinal Plants; Ethno Medicine And Survey; Ethnobotany; Focus Group Discussions; Phytochemicals

1 Introduction

In earlier times, the term "Ethnobotany" was tagged with "plant use by ancient civilization and primitive people," and therefore was deemed to be of no specific utility to modern human society. Man evolved into his present form, exploiting plants for food,

fiber, dyes, agricultural tools, building materials, ornaments, rituals and drugs[1]. The relationship between human societies and their plant environments is the subject of ethano-botany[2]. However, the importance of co-existence with nature dawned upon man only in the recent past, when he had to face serious repercussions in the form of natural hazards brought about by climatic changes and anthropogenic activities[3]. Ethnobotany involves diverse approaches to identify plants used by human cultures-thereby preserving plant diversity, understanding and interpreting the knowledge, and enabling him to deal with them effectively and sustainably[4]. Because of their poverty and a lack of access to modern medicine, about 65 to 80 % of the world's population lives in developing countries and rely primarily on plants for their main healthcare[5].

Ayurveda, Siddha, and Unani, which are still regularly used as the primary rural healthcare systems in the nation, are only a few of the various local and folk traditions that make up the traditional coordination of Indian medicine[6,7]. 90% of the more than 3000 plant species in India that have been found to have medicinal properties originate from the natural environments[8]. Nowadays, the significance of medicinal plants (MPs) is more widely acknowledged due to its benefits in a wide range of areas, along with the environmental, culture, economy, medicines, and nutraceuticals[9]. The study area is the capital of the state Nagaland which is situated in North East India which lies within the world's most bio-diverse areas that is the Indo Burma (Eastern Himalayas) region. Nagaland has a inimitable biogeography, with its rich reservoir of plant diversity. Nagas, a collective term for the indigenous tribal people who make up 90% of Nagaland's population, number close to 2 million. There are 16 major tribes, and they have various languages, cultures, and traditions[10]. The present study aims to record the therapeutic uses of plant species used by the local people and survey the MPs for their accessibility in the local area. The information from this study can outline a foundation for the protection and sustainable consumption of ethnomedicinal plants (EMPs) and facilitate the preservation of both cultural and genetic diversity.

2 Methodology

2.1 Description of the study area

Nagaland, state of India, lies in the hills and mountains of northeastern part of the country. Nagaland is bounded by the Indian states of Arunachal Pradesh to the northeast, Manipur to the south, and Assam to the west and northwest and the country of Myanmar (Burma) to the east. The state capital is Kohima, located in the southern part of Nagaland[11]. One of the 16 Naga tribes of Nagaland state is located in the Kohima district, which has a geographical area of 4041 sq.km and is situated 1450 m above the sea level (25°11'N-26°N latitude and 93°20'E-94°55'E longitude) (Figure 1). Nearly all of Nagaland is mountainous. The average annual rainfall ranges from 70 to 100 inches (1,800 to 2,500 mm). The state as a whole has high humidity levels[12,13].

2.2 Ethnobotanical survey

Tribes are furthermore acknowledged for their comprehension of the use of medicine based on herbal plants and for their local traditional healers' practical knowledge of medicinal plants (MPs), their practices, and the types of diseases they treat. The purpose of this study is to document the herbs used by Naga Tribal in Kohima Nagaland for medicinal purposes.

2.3 Interviews with tribal people

The study was carried out in the different villages of Kohima. Local names, components used, and therapeutic uses were collected and noted during the verbal exchanges between all of the MPs. A total of 110 (one hundred ten) informants, included herbalists, traditional healers, bonesetters, midwives, village elders, and farmers, were interviewed. The age of the informers ranges from 35-85 with an average of 50 years. The majority of the chosen informants go to those families who have a sturdy bond with conventional acquaintance of medicinal plants. Compilation of information was carried out with the support of In-Depth Interviews (IDI) and Focus Group Discussions (FGDs).

3 Results and Discussion

3.1 Ethno medicinal plants in Kohima

In our earth the oldest form of health care so far acknowledged to mankind is the herbal medications. In this study, the ethano-medical benefits of roughly 60 species of significant medicinal plants from 34 families in treating various types of diseases were gathered from the Kohima District. The medicinal herbs that have been gathered have been grouped alphabetically by botanical name, followed by common name, local name and organ usage (Tables 1, 2, 3, 4, 5 and 6). The descript plant families comprise A*steraceae and Lamiaceae* (4 species each), *Amarvllidaceae, Fabaceae, Malvaceae, Poaceae and Rosaceae* (3 species

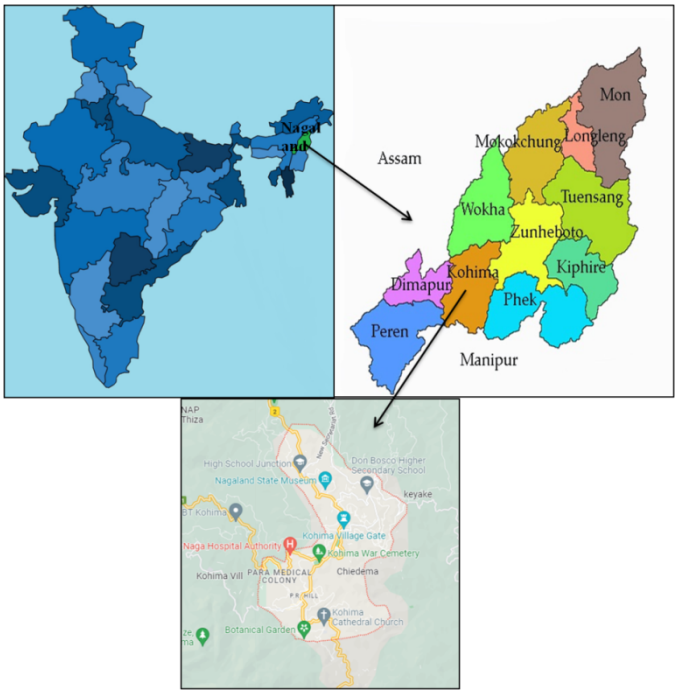

Fig 1. Mapping representation of study area

each), A*raceae, Convolvulaceae, Crassulaceae, Euphorbiaceae, Moraceae, Passifloraceae, Polygonaceae and Rutaceae* (2 species each), *Apiaceae, Betulaceae, Cleomaceae, Equisetaceae, Grossulariaceae, Juglandaceae, Meliaceae, Menispermaceae, Moringaceae, Myrtaceae, Oxadidaceae, Passifloraceae, Phyllanthaceae, Plantaginaceae, Punicaceae, Rhmnaceae, Sauruaceae, Solanaceae* and *Thelypteridaceae* (1 species each). In a prior report, the traditional systems of medicine that has developed over the centuries within various communities aforementioned to the advance of modern medicine are still upholded as a grand traditional knowledge base in herbal medicines[14]. Furthermore, these collections specify the prevalent significance of the above cited families in the study area. The data's collected from this study are in accord with the previous reports[15,16].

Table 1. List of medicinal plants used to cure diseases and various treatments in Kohima District, Nagaland

Botanical Name	Family	LN	CN	Distribution*	MS	PU#	Ethnic Usage
Archyranthes aspera	Amaranthaceae	Osak	Devils horse-whip	FA	Folk	Lv	Skin/Injuries treatment
Allium Chinense	Amaryllidaceae	Atsuna	Rakkyo	FENEI	Folk	Bl, Lv	The whole plant is used as vegetable for flavoring curries. The bulb is blended with mustard and applied to the body to reduce fever. It helps to relieve gastrointestinal pain
Allium hookeri	Amaryllidaceae	Lava tsuna	Hooker	FENEI	Folk	Lv, Rt	Help in reducing blood cholesterol level, tonic and digestive system
Eryngium foetidum Linn	Apiaceae	Naga Dhaniya	Culantro	CW	Folk	Lv	Used as a dropsy, diuretic, antiseptic and for curing jaundice. Leaf juice is applied on the forehead to reduce fever and also used as tonic
Alocasia macr-orrhiza	Araceae	Yam	Giant Taro	TN	Folk, Ayurveda	Lv, Rz	Extract of leaves is used in snake bites
Colocasia blanda	Araceae	Thomilabi	Elephant ears	TN	Folk	Spt	Used for gastritis

Continued on next page

Table 1 continued

Aloe vera	Asphodelaceae	Aloe vera	Aloe	TN	Folk	Lv	Commonly used in indigestion, gastric and kidney trouble
Artemiria nelagarica	Asteraceae	Thupupina	Wormwood	CR	Folk	Lv	Anti-influenza
Eupatorium	Asteraceae	Japan nha	Bonesets	CR	Folk	Fl	Used for cough and gastritis
Mikania micrantha	Asteraceae	Pangkeru	Bitter vine	TN	Folk	Lv	Traditional medicine use for cuts or injury

LN- Local Name, CN- Common Name, MS- Medicinal system, PU#- Parts Use#, CL-Cultivated Land, CR- Cold Region , CW- Cultivated Wild, FA-Forest Areas, FENI-Found Entire in Northeastern India , LWC-Land where there is cultivation, MFWP-Mostly found in Wet Places, TN- Throughout Nagaland. Ap-Aerial parts, Bd- Buds, Bl- Bulb, Br- Bark, Fl- Flower, Fr- Fruit, Lv- Leaves, Pr- Prickles, Rt- Root, Rz- Rhizomes, Sd- Seed, Sht- Shoots, Spt- Sprout, Stk- Stalk, Tb- Tubers, Vn- Vine, Wp- Whole plant.

Table 2. List of medicinal plants used to cure diseases and various treatments in Kohima District, Nagaland

Botanical Name	Family	LN	CN	Distribution*	MS	PU#	Ethnic Usage
Sanchus arvensis	Asteraceae	Gadzi	Milk thistle	TN	Folk	Lv	Appendicitis and dermatitis
Alnus nepalensis	Betulaceae	Lutusu	Indian Alder	FA	Folk	Wp	Bark paste cure stomach ache and dysentery. For the treatment of diarrhea, roots are given orally. Cuts and wounds are treated using leaf paste
Cleome viscose	Cleomaceae	Huluria	Wild mustard	TN	Folk	Wp	Reduces inflamations. Helps in digestion and expels worms
Ipomoea aquatic	Convolvulaceae	Azu ghani	Water spinach	MFWP	Folk	Lv	Use as a carminative, lessens inflammation useful in fever, jaundice and liver complains
Ipomoea batatas	Convolvulaceae	Shi tu	Sweet potato	CL	Folk	Lv, Ap,Tb	Mostly taken by diabetic patient, blood pressure, boost fertility, antidiabetic and skin disorders. Tubers are used in vomiting and constipation
Bryophyllun pinnatum	Crassulaceae	Bethlehem xamunu	Kalanchoe pinnata	TN	Folk	Lv	Treatment of kidney, gastric, ulcer and pulmonary infection
Kalanchoe brasiliensis	Crassulaceae	Lepsa tsuksa	Coerama	TN	Folk	Lv	Plant use for treatment of kidney and urinal problems
Equisetum	Equisetaceae	Sihe	Bull pipes	CR	Folk	Lv	Uroliths
Racinus communis	Euphorbiaceae	Pako	Racinus	TN	Folk	Sd	Medicine use for backache, muscle ache and asthma patient
Ricinus communis	Euphorbiaceae	Chamani	Castor bean	TN	Folk	Lv,Rt, Br,Sd	On swellings, boils, and rheumatic joints, warmed leaves are tied

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Table 3. List of medicinal plants used to cure diseases and various treatments in Kohima District, Nagaland

Botanical Name	Family	LN	CN	Distribution*	MS	PU#	Ethnic Usage
Cajanus cajan	Fabaceae	Asu dal	Pigeon pea	TN	Folk	Sd	It is use in food poisoning, as colic and in constipation.
Inga	Fabaceae	Asu Dali	Shimbillo	TN	Folk	Wp	To treat coughing, crushed leaves are made into a decoction and consumed. Lip sores are treated with a decoction of the leaves.

Continued on next page

Table 3 continued

Psophocarpus tetragonolobus	Fabaceae	Char kona	Winged bean	TN	Folk	Sd	It is used in sauce and also added in curries. Reduce headache and migraine, diabetes, cough, prevents asthma.
Ribes uva-crispa	Grossulariaceae	Khollethi	Gooseberry	TN	Flok, Ayurveda	Wp	Used as medicine for diarrhea, dysentery, headache, constipation and piles.
Juglans Regia	Juglandaceae	Tangmo	English walnut	TN	Flok, Ayurveda	Lv, Br, Sd	The leaf is used for treating diarrhea, digestive tract inflammation and intestinal worms.
Clerodendrum colebrookianum	Lamiaceae	Yenaniye	Glory bower	TN	Folk	Lv	Leaves are eaten as vegetables (boil). Used as an antiseptic, tonic for bronchitis and malaria.
Coleus amboinicus	Lamiaceae	Pulaqhu	Mexican mint	LWC	Folk	Lv	Boost immune system. Relieve respiratory issues if you are suffering from a cold.
Elsholtzia blanda	Lamiaceae	Napa	Lomba	TN	Folk	Wp	Leaf juice is taken in kidney and urinary bladder disorder.
Perilla frutescens	Lamiaceae	Akini	Beefs teak plant	TN	Folk	St, Lv	Antidote, antiseptic, tonic.
Bombax ceiba	Malvaceae	Simol	Silk cotton tree	TN	Folk	Br, Fl, Pr	Anti-inflamatory, healing wounds, control cough, helps prevent stomatitis.

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Table 4. List of medicinal plants used to cure diseases and various treatments in Kohima District, Nagaland

Botanical Name	Family	LN	CN	Distribution*MS		PU[#]	Ethnic Usage
Hibiscus rosa sinensis	Malvaceae	Hibiscus	Hibiscus	TN	Folk	Fr,Br, Rt,Bd	Leaves extract is used as anti inflammatory and prevent scaly skin disorder.
Hibiscus sabdariffa linn	Malvaceae	Yekhe	Roselle	TN	Flok, Ayurveda	Lv	Leaves are boiled and eaten. Antihypertensive, mild laxative, stomach disorders.
Azardirachta indica	Meliaceae	Neem	Neem	TN	Folk	Lv	Neem leaf is used for various skin disorders, eye disorders, skin ulcers and liver problems.
Tinospora cordifolia	Menispermaceae	Entsu bengana	Heart leaved moonseed	TN	Folk	Lv, Sd	Tinospora has been used over centuries to treat various diseases.
Artocarpus heterophyllus	Moraceae	Kothal	Jack fruit	TN	Folk, Ayurveda	Rt,Sd	Asthma and skin diseases both are treated with roots. Biliousness is treated by seeds.
Morus	Moraceae	Aqakho xati	Mulberry	TN	Folk	Fr, Lv	It is use for constipation, symptoms of menopause and runny nose.
Moringa oliefera	Moringaceae	sajina	Drumstick	TN	Folk	Lv, Stk, Fl	It helps to combat against common cold and lowers blood pressure level
Psidium guajava	Myrtaceae	Muduram	Guava	TN	Folk	Lv	The leaves are used for stomachache and intestinal problems; it is consumed by high blood pressure person to lower it.
Oxalis corniculata	Oxadidaceae	Keve	Creeping Wood sorrel	TN	Folk	Wp, Lv	Roots and leaves are used in dysentery and diarrhea. Influenzae, traumatic injuries and diabetes

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Table 4 continued

Parkia timoriana	Passifloraceae	Yanchak	Tree Bean	TN	Folk	Sd	Used in dysentery and piles.

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Table 5. List of medicinal plants used to cure diseases and various treatments in Kohima District, Nagaland

Botanical Name	Family	LN	CN	Distribution	MS	PU[#]	Ethnic Usage
Passiflora edulis	Passifloraceae	Bell khoti	Passion fruit	TN	Folk	Fr, Lv	Fruit juice works well as a tonic for dysentery. The leaves are used to treat diabetes and high blood pressure.
Passiflora vitifolia	Passifloraceae	Enstulashi	Passion flower	TN	Folk	Fl	Use for controlling blood pressure
Phyllanthus embilica	Phyllanthaceae	Kolethi	Gooseberry	TN	Folk	Fr	It is used to kill germs and reducing pain and swelling brought on by the body's response to a disease or injury. It is taken by diabetic, treatment of obesity and diarrhea. Reduce risk of chronic health conditions like heart disease.
Plantago major	Plantaginaceae	Gapa	Broadleaf plantain	TN	Folk	Lv	Blood purification and gastritis.
Bambusa tulda Roxb	Poaceae	Awuti	Bamboo	TN	Folk	Sht	Shoots are eaten as vegetables (boil). Tender bamboo shoot is boiled in water and their soup is used for treating pox and other skin diseases. The paste is used to treat poisonous bites and injuries.
Cynodon dactylon	Poaceae	Doop	Grass	TN	Folk	Wp	Treatment of various ailments such as cancer, cough, cramps, diarrhea, dysentery.
Saccharum officinarum Linn	Poaceae	Akhoyi	sugarcane	CIV	Flok, Ayurveda	Stk	The juice can be used to treat gallbladder problems and jaundice. The juice from the stem is used to heal sore throats, while the leaf ash is used to treat painful eyes.

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Table 6. List of medicinal plants used to cure diseases and various treatments in Kohima District, Nagaland

Botanical Name	Family	LN	CN	Distribution*	MS	PU[#]	Ethnic Usage
Persicaria capitata	Polygonaceae	Kitsigaghie	Pink knotweed	TN	Folk	Wp	Apply on fracture and dislocation
Polygonum	Polygonaceae	Thivithishe	Knotweed	CR	Folk	Wp	Treatment for snake bite
Puncia granatum	Punicaceae	Khaghatu	Pomegranate	TN	Folk	Sd	Treatment for high blood pressure, heart disease and diabetes.
Zizyphus jujube	Rhmnaceae	Bugri	Indian plum	TN	Folk	Rt, Br, Lv	Helps reduction of excess secretion of bile and headache, cures boils dysentery and diarrhea, works as laxation for TB

Continued on next page

Table 6 continued

Prunus pendula	Rosaceae	Matsungsheo	Weeping cherry tree	TN	Folk	Lv	The leaves are used for making alcohol and beverages.
Prunus salicifolia	Rosaceae	Melen tu	Plum	CL	Folk	Sd, Fr	Improves the digestion.
Rubus Foliolosus D.Don	Rosaceae	Yevuthi	Mysore Raspberry	TN	Folk	Ap, Rt	Root decoction is used in fever and malaria, used in eye drops and used as tonic.
Coffea Arabica	Rubiaceae	kofii	Cofee	TN	Folk	Sd	Diuretic or promotes flow of urine, antipyretic, stimulates the flow of digestive juices.
Citrus limon	Rutaceae	Limbu	Wild lemon	TN	Folk	Fr	It helps in expelling worms and helps in digestion, helps in expelling gas and effective against scurvy.
Citrus medica	Rutaceae	Jempen tu	Ponderosa lemon	TN	Folk	Fr	Mostly use for preventing mosquito.
Houttuynia cordata	Saururaceae	Nokna	Chameleon	MFWP	Folk	Lv, Rt	Various diseases are treated using traditional medicine.
Soda viarum	Solanaceae	Enstu lekok	Soda apple	TN	Folk	Sd	This plant is widely used for getting rid of cavities.
Pneumatopteris pennigera	Thelypteridaceae	Shoqheye	Gully fern	TN	Folk	Lv	This plant helps to cure allergy caused mostly the ones found in birds.

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3.2 Plant parts used

The copious plant parts mostly used for wide range of disorders and illness in Kohima traditionally are the leaves (37 %) which are the most repeatedly used plant part, followed by the seed (13 %), the whole plant (10 %), fruit (8 %), the root (7.0%), the bark (6.0%), the flower (5 %), the aerial parts (2 %), the stalk (2 %) and the bulb, buds, rhizomes, shoots, prickles, sprout, vine and tubers (1% each). Among all herbal plant parts, the leaves of almost all plants are regularly used to treat diseases. Additionally, many MPs mentioned in this research study have also been reported by numerous authors [15,16] which are employ for comparable reasons in Nagaland [17,18]. The results of these studies, which detailed the primary uses of plants, are in accordance with results from similar studies carried out in other parts of the world. Both common diseases like colds and a limited number of complex illnesses like cancer were reported to be treated. The vast majority of plants mentioned by the informants reportedly worked well to treat the diseases they were used for. Furthermore, most of the informants discussed the impact of using folk traditions [19,20].

4 Conclusion

The acquaintance of plants among the tribal communities is altering with the rapid socioeconomic and edifying changes. For the future generation as well as scientific research documentation of the information based on medical plants and their important role in treating diseases are need to focus. Matter of low price without any side effects of medical plants prepared based on traditional methods create them adjustable by the local society. Tribes' knowledge of and possession of medicinal plants portends well for future research and the development of new drugs to treat diseases. So, additional scientific assessment of these medicines for biological, phyto-chemical and pre-clinical and clinical studies is, however, wholly desirable. Essentially, medicinal plants play a very important role in providing awareness to the researches in the field of ethnobotany and ethnopharmacology. The interpretations of the present study confirm that traditional medicine plays a considerable role among the local tribes and natives of Kohima District.

References

1) Rodrigues E, Cassas F, Conde BE, Cruz CD, Barretto EHP, Santos GD, et al. Participatory ethnobotany and conservation: a methodological case study conducted with quilombola communities in Brazil's Atlantic Forest. *Journal of Ethnobiology and Ethnomedicine*. 2020;16(1):1–12. Available from: https://doi.org/10.1186/s13002-019-0352-x.
2) Shosan LO, Fawibe OO, Ajiboye AA, Abeegunrin TA, Agboola DA. Ethnobotanical Survey of Medicinal Plants Used in Curing Some Diseases in Infants in Abeokuta South Local Government Area of Ogun State, Nigeria. *American Journal of Plant Sciences*. 2014;05(21):3258–3268. Available from: https://doi.org/10.4236/ajps.2014.521340.
3) Thejasenuo J, Kirha A. Traditional knowledge of medicinal plants used by Kigwema village of Kohima district, Nagaland (India). *International Journal of Herbal Medicine*. 2023;11(2):51–56. Available from: https://doi.org/10.22271/flora.2023.v11.i2a.860.
4) Bindu R, Nair K, Perera LS, Sreeshma. Modern Ethnobotany and the Development of Drug Leads. *Sustainable Development and Biodiversity*. 2023.
5) WHO (World Health Organization). *Traditional Medicine Strategy Report*. 2002. Available from: https://apps.who.int/iris/handle/10665/67163.
6) Yepthomi GI, Solo K, Maiti CS, Seyie A, Hemanata L, Ezung N. Studies on Ethnomedicinal Plants of Nagaland. *Journal of Agriculture, Science and Technology*. 2023;10(1):55–65. Available from: https://www.researchgate.net/publication/371858979_Studies_on_Ethnomedicinal_Plants_of_Nagaland.
7) Jamshidi-Kia F, Lorigooini Z, Amini-Khoei H. Medicinal plants: Past history and future perspective. *Journal of Herbmed Pharmacology*. 2018;7(1):1–7. Available from: http://herbmedpharmacol.com/Article/jhp-1198.
8) Keskin C. Medicinal Plants and their Traditional Uses. *Journal of Advances in Plant Biology*. 2018;1(2):8–12. Available from: https://doi.org/10.14302/issn.2638-4469.japb-18-2423.
9) Tripathi S, Ray S, Mondal A, Verma NK. Rare ethnomedicinal plants of south West Bengal, India with their different medicinal uses; needs conservation. *International Journal of Life Sciences Biotechnology and Pharma Research*. 2013;2:114–122. Available from: https://www.worldwidejournals.com/global-journal-for-research-analysis-GJRA/recent_issues_pdf/2019/March/rare-ethno-medicinal-hemi-parasitic-plants-conservation-and-sustainable-use-in-south-west-bengal-india_March_2019_6870874124_2313452.pdf.
10) Kichu M, Malewska T, Akter K, Imchen I, Harrington D, Kohen J, et al. An ethnobotanical study of medicinal plants of Chungtia village, Nagaland, India. *Journal of Ethnopharmacology*. 2015;166:5–17. Available from: https://doi.org/10.1016/j.jep.2015.02.053.
11) Munoth N, Zumu AT. City of the indigenous people: a study of Kohima City, Nagaland, India. In: Indigenous People and Nature. ;p. 61–81. Available from: https://doi.org/10.1016/B978-0-323-91603-5.00010-5.
12) Deorani S, Sharma GD. Medicinal plants of Nagaland. 2007. Available from: https://www.saujanyabooks.com/details.aspx?id=4991.
13) Pfoze NL, Kehie HM, Kayang, Ashiho A, Mao. Estimation of Ethnobotanical Plants of the Naga of North East India. *Journal of Medicinal Plants Studies*. 2014;2(3):92–104. Available from: https://www.plantsjournal.com/vol2Issue3/Issue_may_2014/12.1.pdf.
14) Mukherjee PK, Wahile A. Integrated approaches towards drug development from Ayurveda and other Indian system of medicines. *Journal of Ethnopharmacology*. 2006;103(1):25–35. Available from: https://doi.org/10.1016/j.jep.2005.09.024.
15) Rajaganesh K, Sumedha NC, Basha SA, Venuh MV, Murali. Ethnobotanical Survey of Folklore medicinal Plants from Dimapur District of Nagaland, India. *World News of Natural Sciences*. 2021;39:22–29. Available from: https://bibliotekanauki.pl/articles/1839718.
16) Manikandan S, Thamizhiniyan P. Ethno medicinal plant survey of Vadachennimalai hill. *International Journal of creative research thoughts (IJCRT)*. 2022;10(3):459–477. Available from: https://ijcrt.org/papers/IJCRT2203629.pdf.
17) Temsutola, Lothunglo, Ngullie, Vepu. Ethnomedicinal study of plants used by Chang Naga tribe of Tuensang. *International Journal of Botany Studies*. 2019;4(2):107–109. Available from: http://immanuelcollege.in/wp-content/uploads/2019/05/ijbs.pdf.
18) Vadeo AD. A brief review of medicinal plants used by the Naga tribes of Nagaland India. *International Journal of Life Science Research Archive*;2023(01):143–152. Available from: https://doi.org/10.53771/ijlsra.2023.4.1.0025.
19) Yang J, Luo J, Gan Q, Ke L, Zhang F, Guo H, et al. An ethnobotanical study of forage plants in Zhuxi County in the Qinba mountainous area of central China. *Plant Diversity*. 2021;43(3):239–247. Available from: https://doi.org/10.1016/j.pld.2020.12.008.
20) Aparicioa IH, Hedbergb S, Bandeirac A, Ghorbanid. Ethnobotanical study of medicinal and edible plants used in Nhamacoa area, Manica provinceMozambique. *South African Journal of Botany*. 2021;p. 318–328. Available from: https://doi.org/10.1016/j.sajb.2021.02.029.