

Ethnomedicinal Practices and Traditional Medicinal Plants of Barak Valley, Assam: a systematic review

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Objectives: The Barak Valley is well known for its rich diversity of medicinal plants. Ethnomedicinal practices are prominent among Barak Valley's major and minor ethnic groups. This systemic review focuses on traditionally used medicinal plants found in the Barak Valley as reported in different ethnobotanical surveys.

Methods: We searched various databases, including PubMed, Web of Science, and Google Scholar, to find ethnomedicinal surveys conducted in the Barak Valley. The search was performed using different terms, including ethnomedicinal survey, folk medicine, indigenous knowledge, and Barak Valley. Potential articles were identified following the exclusion and inclusion criteria.

Results: A total of eight ethnobotanical surveys were included in this study. We identified a total of 216 plant species belonging to 167 genera and 87 families, which are widely used by the ethnic communities who live in the rural areas of Barak Valley for the treatment of various diseases and ailments.

Conclusion: Folk medicine is the result of decades of accumulated knowledge and practices by people who live in rural communities based on their needs and provides an important source of information to assist the search for new pharmaceuticals. Therefore, available information on traditional medicinal plants needs to be explored scientifically to find effective and alternative treatments for different diseases.

Keywords: barak valley, ethnobotanical survey, folk medicine, medicinal plants, systematic review

INTRODUCTION

The Barak Valley, located between 24°8' and 25°8'N, 92°15' and 93°15'E, is comprised of three districts of Assam; Cachar, Hailakandi, and Karimganj. This area is located in the Southern part of Northeast India and covers an area of 6,922 km². Considering the physiography of the area, Barak Valley can be divided into different ecosystems, ranging from the high hills, whose elevation exceeds 300 meters, to the perennially water-logged wetlands. The Valley reports a warm, humid climate with an average annual rainfall of 2,440-4,100 mm, most of which is acquired during the southwest monsoon season spanning May to September [1]. A well-known feature of the Barak Valley is the rich diversity of medicinal plants found

along the wetlands and floodplains, which are home to several tribes and other communities [2].

The Cachar district covers an area of 3,786 km² and has a population density of 17,360, as per the census of 2011. There are many small rivers in the district flowing from Manipur or Mizoram. The main river is the Barak, from which the name Barak Valley is derived. The district's forests are the Barail and Inner line reserves. The Hailakandi district covers an area of 1,327 km² with a population size of 6,59,296 per the 2011 census. The Dhaleswari river is the main river of the district and flows north through the center of the district. The Inner line reserved forest and the Katakhal reserved forest make up the district's reserves. The Kamriganj district has a geographical area of 1,809 km² and a population of 12,28,686 as per the census of

2011. The Kushiara river runs through the Kamriganj district on the district's northern border with Bangladesh [1].

The Barak Valley is a customary territory for various ethnic groups. Bengali Hindus and Muslim communities account for most of the ethnic groups in the Barak Valley. The other communities or tribes include the Manipuri, Mizo, Barman, Rieng, Hmar, Vaiphei, Kuki, Dimasa, Assamese, Jaintia, Chorai, Hrangkhoh, Karbi, Naga, and Chirus [2-4].

Humans have used plants to cure diseases and relieve physical agony since before recorded history [5]. Plants have been used as medicinal agents initially based on anecdotal evidence and then later developed into single-agent drugs via scientific methods [6]. Science and technology have experienced significant advances since the turn of the century. Plants used as folk medicines have helped identify plants to further scientifically investigate, reducing the time for new drug discoveries. Still, much of the population living in remote areas rely on herbal medicine as their primary means of healthcare [7].

There are many ethnic groups in India with diverse backgrounds, and it has been reported that approximately 400 tribes and ethnic groups make up India's rural population. Most of India's tribes and ethnic groups reside in rural areas and forests and rely heavily on the indigenous system of medicine. The World Health Organization (WHO) emphasizes the use of plants by different ethnic groups around the world [8, 9]. Therefore, this paper focuses on a systematic documentation of ethnomedicinal practices, and folk use of medicinal plants in Barak Valley, Assam.

MATERIALS AND METHODS

1. Data sources and search strategy

Using ethnobotanical surveys, this review compiled medicinal plants traditionally used in medicine. This study was performed following the guidelines of Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) [10].

Discerning pertinent articles for this study was done while focusing on the main objectives of this systematic review. Google Scholar, PubMed, Springer, and Scopus databases were searched to locate relevant literature. The search was filtered without regard to duration or publication date and was last updated on January 31st, 2022.

Specific keyword combinations included “ethnomedicinal survey” OR “ethnobotanical uses” OR “folk medicine” OR “eth-

nobotanical survey” OR “indigenous knowledge” OR “traditional knowledge” AND “medicinal plants” OR “Barak Valley” OR “Specific state of Barak Valley” as well as free-text words were used in the search.

2. Inclusion and exclusion criteria

Ethnomedicinal studies and surveys that reported plants used traditionally in treating various diseases were included in this review. The inclusion criteria for the articles were full-length research articles published in English and ethnobotanical surveys conducted in the Barak Valley region of Assam. The exclusion criteria included articles published in other languages, review articles, articles on ethnoveterinary use, and articles published in platforms or forums other than scientific journals.

3. Data selection

In the first phase of article selections, a manual evaluation of journal article titles and abstracts was performed by four different authors to include the articles related to the topic. All potentially qualified papers were examined again by other authors. A third author's opinion was considered in cases of discrepancies. The data selection process is given in Fig. 1.

4. Data analysis and reporting

A detailed evaluation of the literature search data was conducted, and data, including the plant name, family, local name or vernacular name, parts used, reported traditional uses, detail of informants, and area of the survey was epitomized. Based on the scope of this systematic review, no specific analytical tools were used.

RESULTS

Various databases were preliminarily searched and 185 records were identified. Using different criteria, including title, abstract, and other criteria at different stages, 95 articles were selected. In addition, duplicate entries and records other than journal publications were excluded. As a result, eight ethnobotanical survey journal articles were analyzed and included in this systematic review.

A total of 216 plants were reported in the eight ethnobotanical surveys that are used by the *local people, communities, and*

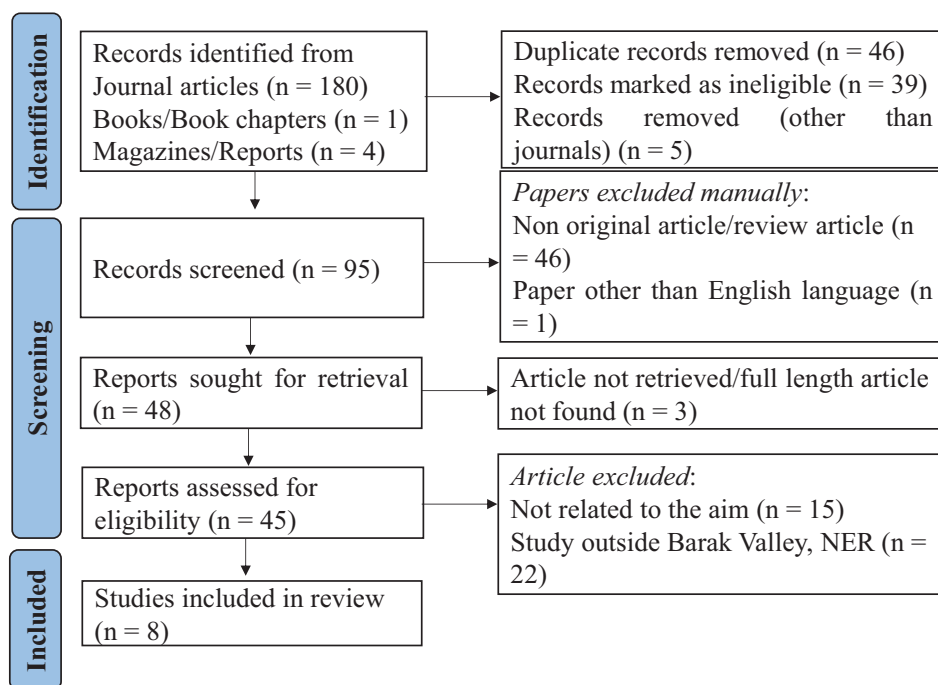


Figure 1. Flow chart of the references selected.

tribes of the Barak Valley. The 216 plants used traditionally for medicinal purposes are listed in Table 1 [11-14], along with the family, parts used for treatment, details of the informants, and availability.

A detailed analysis divulged that the 216 plant species widely used by the locals, tribals, and other communities of the Barak Valley for the treatment of various diseases and ailments belong to 167 genera and 87 families. Out of the 216 plants identified in this systematic review, the *Asteraceae* family contributed 15 species making it the most prominent family of plants in this review, followed by *Zingiberaceae* and *Fabaceae* (11 each); *Solanaceae*, *Verbenaceae*, *Euphorbiaceae*, and *Lamiaceae* (8 each); *Acanthaceae* and *Apocynaceae* (7 each); *Moraceae* and *Malvaceae* (6); *Araceae* and *Cucurbitaceae* (5 each); *Amaranthaceae*, *Combretaceae*, and *Poaceae* (4 each); *Liliaceae*, *Asclepiadaceae*, *Caesalpiniaceae*, *Convolvulaceae*, *Myrtaceae*, *Rutaceae*, and *Scrophulariaceae* (3 each); *Crassulaceae*, *Oxalidaceae*, *Piperaceae*, *Apiaceae*, *Arecaceae*, *Boraginaceae*, *Cyperaceae*, *Gentianaceae*, *Lauraceae*, *Meliaceae*, *Musaceae*, *Phyllanthaceae*, *Rhamnaceae*, and *Rubiaceae* (2 each); and the remaining 48 families represented single species.

This review also revealed that the leaf is the most common part used for treating various diseases accounting for 39.26% of the cases. The leaf is used in decoctions, pastes, or directly to cure various ailments. The other common parts used for healing are fruit (9.93%), stem (8.77%), whole plant (8.54%), bark

(7.62%), root (6.46%), seed (6.23%), flower (4.61%), rhizome (4.15%), bulb (1.15%), and latex (0.69%) (Fig. 2).

It was also revealed that the various communities and tribes of the Barak Valley use different plant species to treat diabetes (62 species); fever (34 species); cuts and wounds (31 species); stomach troubles and ulcers (26 species); dysentery (25 species); cough (23 species); skin disease (19 species); jaundice (18 species); liver trouble (14 species); parasites (11 species); piles, tooth aches, headaches, and tonics (10 species each); gastric trouble, diarrhea, and constipation (8 species each); menstruation trouble, asthma, hair growth, urinary problems, appetizers, malaria, and muscle, stomach, and abdominal pain (6 species each); hypertension, rheumatic pain, fractures, and blood purification (5 species each); eye trouble and small pox (4 species each); snake bites, boils, and impotency (3 species each); leucorrhoea, cardiotoxic, tuberculosis, burns, gout, and typhoid (2 species each); anaemia, purgative, heart trouble, dyspepsia, increased lactation, curing body, intestinal problems, lactagogue, helminthics, and sprains (1 species each) (Fig. 3). It was also found that the juice from different plant parts are the most common form of preparation, followed by paste, direct use, and extracts. However, a major limitation of this study is that in many of these cases, the authors did not mention the folk recipes (Fig. 4).

In the ethnobotanical surveys across the Barak Valley, most of the information and data was collected through traditional

Table 1. Ethnomedicinal plants used by the people of Barak Valley, Assam

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
1.*	<i>Averrhoa carambola</i> L.	Oxalidaceae	Kamrenga (BN)	Fruit	Ripe fruits are taken to cure jaundice.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
2.	<i>Acanthus leucostachys</i> Wallich	Acanthaceae	Mussali (BN)	Leaf	Leaf paste is applied externally in fresh cuts and wounds.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
3.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Kathapatta (BN) Obhat kata (AS)	Leaf, twig Stem, leaf	Leaf juice used internally in otorrhea. Young twig paste used as bandage in external wounds, injury. Stem and leaf juice is useful in jaundice. Leaf juice is used in menstruation trouble.	Old people in the society Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Different districts Tribal villages of Cachar district	Barbhuiya et al., 2009 [1] Das et al., 2008 [2]
4.	<i>Acorus calamus</i> L.	Araceae	Boch (AS)	Not mentioned	Dried powder mixed with honey and taken in morning as stimulant.	Old people	Different districts	Barbhuiya et al., 2009 [1]
5.	<i>Adhatoda vasica</i> Nees	Acanthaceae	Vasaka (BN)	Leaf Leaf Twig, leaf, bulb	Leaf juice is used to cure or relieve cough. Leaf juice is used in cough. Twigs are used in diabetes. Fresh leaves used to develop resistance against poison. Paste of bulb used to cure gastric troubles. Leaves are used to cure cough, fever and itching.	Village headman, medicine men Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers. Herbal practitioners or kavirajs	Various villages Tribal villages of Cachar district Kamranga village, Cachar district	Laskar and Dutta, 2009 [11] Das et al., 2008 [2] Singh et al., 2011 [3]
				Leaf	Leaf is used in jaundice, used with honey for cough, asthma.	-	Hailakandi district	Khan et al., 2011 [12]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
6.	<i>Aegle marmelos</i> (L.) Correa	Rutaceae	Bel (BN)	Fruit, leaf, root	Ripen fruit shake used in stomach troubles. Leaf paste used in forehead against intermittent fever. Root, leaf extract used in diarrhoea and blood dysentery. Leaf juice mixed with black pepper and taken to get relief from piles.	Old people in the society Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Districts of Barak Valley	Barbhuiya et al., 2009 [1]
				Leaf	Leaf juice with <i>Piper longum</i> taken orally against cold cough. Used in treatment of diabetes	- Hmar, Manipuri and Barman communities	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf	Fruits are taken to cure dysentery	Village headman, medicine men	Hailakandi district	Khan et al., 2011 [12]
				Fruit			Hailakandi district	Khan et al., 2014 [13]
							Various villages	Laskar and Dutta, 2009 [11]
7.	<i>Ageratum conyzoides</i> L.	Asteraceae	Gendali bon (AS)	Whole plant	Leaf juice is applied externally in fresh cuts and wounds and in eye trouble. Plant juice is taken orally once daily in jaundice.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
8.	<i>Allium sativum</i> L.	Liliaceae	Rasun (BN)	Bulb	Bulb is good for stomach problem.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
				Bulb, leaf	Bulb paste is applied on injuries to remove pus. Bulb is used to maintain blood pressure, and paralysed body part. Leaf base are used to cure dysentery, gastric troubles and stomach worms.	Herbal practitioners or kavrirajs	Kamrang a village, Cachar district	Singh et al., 2011 [3]
				Bulb	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
				Bulb	Bulb paste mixed with mustard oil is used to reduce body ache.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
9.	<i>Alocasia indica</i> Roxb	Araceae	Hong-ngoo (M)	Rhizome	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
10.	<i>Alocasia macrorrhizos</i> (L.) G. Don	Araceae	Hong-ngo (M)	Rhizome, petiole	Rhizome is used in bee bite. Petiole is used in poisonous bite.	Local people, herbalist and traditional healers.	Mashkall village, Cachar district	Chanu et al., 2015 [14]
11.	<i>Aloe barbadensis</i> W. Miller	Liliaceae	Ghritakumari (BN)	Leaf	Leaf juice useful in leucorrhoea, hair growth and tuberculosis	-	Hailakandi district	Khan et al., 2011 [12]
12.	<i>Alpinia malaacensis</i> Burm. f.	Zingiberaceae	Murta (BN)	Leaf	Young bud is used to cure ear problem.	Village headman, medicine men	Various villages of Barak Valley	Laskar and Dutta, 2009 [11]
13.	<i>Alpinia galangal</i> (L.) Willd.	Zingiberaceae	Kulejan (BN)	Whole plant	Plant extract is used as abortifacient. Paste used for curing ringworm and rheumatic pain.	Old people in the society	Districts of Barak Valley	Barbhuiya et al., 2009 [1]
14.	<i>Alstonia scholaris</i> (L.) R.Br.	Apocynaceae	Chaituang (MZ)	Bark	Bark paste with honey is used to cure fever.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
15.	<i>Alternanthera sessilis</i> (L.) Br. ex. DC.	Amaranthaceae	Akilencha (BN)	Stem, leaf	Leaf is used against headache. Latex is applied in allergy and abscesses. Bark used against stomach trouble. Stem and leaf paste is applied against snake bite.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
16.	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Khentyimy ra (MZ)	Stem, leaf	Stem and leaf are useful in dysentery.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
17.	<i>Amaranthus virides</i> L.	Amaranthaceae	Tanduliva (MZ)	Stem, leaf	Stem and leaf are useful against small pox.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
18.	<i>Ananas comosus</i> (L.) Merr.	Bromeliaceae	Anaras (BN) Keehom (M)	Leaf Fruit, leaf Leaf Whole plant	Leaf juice mixed with salt and given to child to cure worm infection. Ripe fruit is used to cure cough. Young leaves are used to treat breathing problems. Young leaf juice taken orally against worm Used in treatment of diabetes	Village headman, medicine men Herbal practitioners or kavirajs - Hmar, Manipuri and Barman communities	Various villages of Barak Valley Kamranga village, Cachar district Hailakandi district Hailakandi district	Laskar and Dutta, 2009 [11] Singh et al., 2011 [3] Khan et al., 2011 [12] Khan et al., 2014 [13]
19.	<i>Andrographis paniculata</i> (Burman f.) Wallich ex Nees	Acanthaceae	Kalmeg (BN)	Leaf, twig Stem, leaf Leaf, whole plant Twig Whole plant Leaf	Paste of leaves and twigs are used for hair growing. Stem and leaf are useful in dysentery. Leaf juice is taken orally in fever and stomach trouble. Stem juice is taken to eradicate worms. Leaf extract is used in asthma and bronchitis. Whole plant is soaked in water overnight and taken for curing worms and stomach pain. Twigs are used in fever, cough and liver troubles Used in treatment of diabetes. Fresh juice of the leaves along with honey is prescribed in fever.	Village headman, medicine men Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers. Old people in the society. Herbal practitioners or kavirajs Hmar, Manipuri and Barman communities Village old men, medicine man, local men, women and cultivators	Various villages Tribal villages of Cachar district Different districts Kamranga village, Cachar district Hailakandi district Manipuri community of Barak Valley	Laskar and Dutta, 2009 [11] Das et al., 2008 [2] Barbhuiya et al., 2009 [1] Singh et al., 2011 [3] Khan et al., 2014 [13] Choudhury et al., 2010 [4]
20.	<i>Angiopteris evecta</i> (G. Froster) Hoffmann	Angiopteridaceae	Gokur (M)	Rhizome Leaf	Rhizome is useful in piles. Used in treatment of diabetes.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers. Hmar, Manipuri and Barman communities	Tribal villages of Cachar district Hailakandi district	Das et al., 2008 [2] Khan et al., 2014 [13]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
21.	<i>Annona squamosa</i> L.	Annonaceae	Sitaphala m (MZ)	Leaf	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
22.	<i>Apama tomentosa</i> (Bl.) Engl	Aristolochiaceae	Akpati (BN)	Stem	Stem juice is used as tonic.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
23.	<i>Areca catechu</i> L.	Arecaceae	Kwa (BN)	Nut	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
24.	<i>Argemone mexicana</i> L.	Papaveraceae	Siyalkata (BN)	Root	Root juice is useful in fresh cuts and wounds.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
25.	<i>Artocarpus chama</i> Buch.-Ham	Moraceae	Chamkatha I (BN)	Bark	Bark extract is used in jaundice. Dried fruit powder is used in diabetes.	Old people in the society	Different istricts	Barbhuiya et al., 2009 [1]
26.	<i>Artocarpus lakoocha</i> Roxb.	Moraceae	Bohot (AS)	Leaf, bark, fruit	Dried leaf and bark powder are used in malaria. Fruit is used in stomach troubles.	Old people in the society	Different districts	Barbhuiya et al., 2009 [1]
27.*	<i>Averrhoa carambola</i> L.	Oxalidaceae	Theiher-awt (MZ) Kadamba (BN)	Fruit	Fruits are useful in jaundice.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
				Bark	Bark extract used as tonic.	-	Hailakadi district	Khan et al., 2011 [12]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
28.	<i>Azadiracta indica</i> A. Jussieu	Meliaceae	Neem (BN)	Leaf	Fresh leaves are useful household remedy in fever.	Village old men, medicine man, local men, women and cultivators	Manipuri community	Choudhury et al., 2010 [4]
				Twig, leaf	Twig is used in pyorrhoea. Leaves used in stomach diseases, small pox, malarial fever, skin disease.	Local people, herbalist and traditional healers	Mashkali village, Cachar district	Chau et al., 2015 [14]
				Leaf, bark, seed	Leaf is used against skin diseases. Leaf juice is useful in diabetes. Bark juice is used against worms. Seed oil is used for abortion.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Fruit	Fruits used in jaundice.	-	Hailakandi district	Khan et al., 2011 [12]
				Leaf	Leaf juice is taken to cure malaria.	The village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
				Leaf, seed	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
29.	<i>Bacopa monnieri</i> (L.) Wettst.	Scrophulariaceae	Brahmisag	Plant	Plant juice is used as nerve tonic and in asthma. Paste is bandaged as snake antidote.	Old people in the society.	Districts of Barak Valley	Barbhuiya et al., 2009 [1]
30.	<i>Bambusa tulda</i> Roxb	Poaceae	Nim (BN)	Wax, hair	Wax and hairs are applied directly on injured body part to check bleeding.	Herbal practitioners or kavirajs	Kamranga village, Cachar district	Singh et al., 2011 [3]
				Leaf	Leaves used in skin diseases. Seed oil for abortion.	-	Hailakandi district	Khan et al., 2011 [12]
31.	<i>Bauhinia purpurea</i> L.	Caesalpiniaceae	Kanchan (BN)	Bark	Bark juice with honey is taken orally against leucorrhoea. Bark juice is also useful in menstruation trouble.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
32.	<i>Begonia roxburghii</i> (Miq.) DC	Begoniaceae	Almikri (BN)	Root, petiole, leaf	Root, petiole and leaf are used against cough and fever.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
33.	<i>Benincasa hispida</i> (Thunberg) Cogniaux	Cucurbitaceae	Torbot (BN)	Fruit	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
34.	<i>Bixa orellana</i> L.	Bixaceae	Ureirom (M)	Bark	Bark decoction has antipyretic effect.	Village old men, medicine man, local men, women and cultivators	Manipuri community	Choudhury et al., 2010 [4]
35.	<i>Blechnum orientale</i> L.	Blechnaceae	Vobnam (MZ)	Rhizome, frond	Rhizome and fronds are used in fresh cuts and wounds.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
36.	<i>Bombax ceiba</i> L.	Malvaceae	Simul (BN)	Seed	Seed used in liver and stomach troubles.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
37.	<i>Borreria hispida</i> Spruce ex K. Schum.	Rubiaceae	-	Leaf	Leaf juice is used as blood coagulant.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
38.	<i>Borussia javanica</i> L.	Simaroubaceae	Heining (MZ)	Fruit, seed	Used in treatment of diabetes	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
39.	<i>Brassica campestris</i> L.	Brassicaceae	Chalgom (AS)	Leaf	Cooling of head, foot and palm. Absorption of clotted blood from any cut or injury.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
40.	<i>Bryophyllum pinnatum</i> (Lam.) Oken	Crassulaceae	Pathar chura (BN)	Leaf	Fresh leaf juice is taken orally against dysentery. Leaf paste is applied externally in cuts and wounds and on forehead to reduce headache.	Local people, herbalist and traditional healers.	Mashkall village, Cachar district	Chanu et al., 2015 [14]
41.	<i>Cajanus cajan</i> (L.) Mill.	Fabaceae	Aral (BN)	Leaf	Used in treatment of dysentery, diabetes, problems related to uterus. Young leaf juice is useful in jaundice.	Village chiefs, medicine man, Ojha, local old women, school teachers, forest dwellers.	Mashkall village, Cachar district	Chanu et al., 2015 [14]
41.	<i>Cajanus cajan</i> (L.) Mill.	Fabaceae	Aral (BN)	Leaf	Young leaf juice is useful in jaundice.	Village chiefs, medicine man, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
42.	<i>Cajanus indicus</i> Spreng.	Papilionaceae	Arahor (AS)	Leaf	Leaf juice is used to cure	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
43.	<i>Callicarpa arborea</i> Roxb.	Verbenaceae	Hnahkiah (MZ) Phul gamir (BN)	Bark	Bark is useful in diarrhea.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
44.	<i>Calotropis iarrhea</i> Br.	Asclepiadaceae	Opegamgoi (M)	Leaf, flower	Warm leaves are applied externally against rheumatism. Flowers are applied in piles.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
45.	<i>Calotropis procera</i> (Alton) W.T. Alton	Asclepiadaceae	Akon (AS)	Latex, whole plant	Latex is applied externally in skin diseases. Plant juice is used for gastric problems, diarrhoea, stomach ulcers. UTI.	Herbal practitioners or kavirajs	Kamranga village, Cachar district	Singh et al., 2011 [3]
46.	<i>Canna indica</i> L.	Cannaceae	Laphurei (M)	Root	Crushed fresh root is given in fever.	Village old men, medicine man, local men, women and cultivators	Manipuri community	Choudhury et al., 2010 [4]
47.	<i>Cannabis sativa</i> L.	Cannabaceae	Gunja (MZ)	Leaf, flower, resins	Used in treatment of diabetes	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
48.	<i>Capsicum frutescens</i> L.	Solanaceae	Akand (BN)	Leaf	Leaves used in rheumatic pain	-	Hailakandi district	Khan et al., 2011 [12]
49.	<i>Carica papaya</i> L.	Caricaceae	Kofol (BN)	Fruit	Fruit is used to cure stomach problem.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
				Fruit, flower, leaf, seed	Fruits used in dysentery. Flower used in ear trouble. Pseudo fruit mixed with the fruits of <i>Melastoma malabathricum</i> is taken orally against impotency. Leaf is used against toothache. Seeds are used for deworming.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Seed	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
50.	<i>Cassia alata</i> L.	Fabaceae	Duidubi (MZ)	Leaf	Paste made by pounding fresh leaves and <i>Allium sativum</i> is applied allergy and abscesses.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
51.	<i>Cassia fistula</i> L.	Fabaceae	Suvarnaka (M)	Flower	Decoction of the flower is given in chronic fever.	Village old men, medicine man, local people and cultivators	Manipuri community	Choudhury et al., 2010 [4]
52.	<i>Cassia occidentalis</i> L.	Fabaceae	Meitarbi (MZ)	Flower, seed, stem bark Seed, leaf	Used in treatment of diabetes. Seed and leaf paste is applied externally on skin diseases	Hmar, Manipuri and Barman communities Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Hailakandi district	Khan et al., 2014 [13]
53.	<i>Cassia tora</i> L.	Fabaceae	Thounam (M)	Leaf, seed	Leaves and seeds are applied on skin diseases.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar fistrict	Das et al., 2008 [2]
54.	<i>Catharanthus roseus</i> (L.) G. Don	Apocynaceae	Nayantara (BN)	Leaf	Leaf paste is applied on forehead to reduce headache.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf	Leaves used in diabetes and fever.	-	Hailakandi district	Khan et al., 2011 [12]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
55.	<i>Centella asiatica</i> (L.) Urban	Apiaceae	Thankuni (BN)	Leaf	Leaf is taken raw to cure stomach problems. Rhizome is used in body pain. Whole plant is used in dysentery and digestive problems. Leaves are used for blood purification. Powder of dried leaf used in skin infections. Rhizome is used in fractured bone to get early relief.	Village headman, medicine men Herbal practitioners or kavirajs	Various villages Kamranga village, Cachar district	Laskar and Dutta, 2009 [11] Singh et al., 2011 [3]
56.	<i>Chromolaena odorata</i> (L.) King & Robinson	Asteraceae	Pholony (MZ)	Leaf	Used in blood purification, improving memory, amoebic dysentery, rheumatism, stomach ulcer, diarrhea, gastric, digestive problems, appetite and skin diseases.	Local people, herbalist and traditional healers	Mashkall village, Cachar district	Chanu et al., 2015 [14]
57.	<i>Cinnamomum bejolghota</i> (Buch.-Ham.) Sweet	Lauraceae	Janglitez patha (BN)	Leaf, bark	Leaf juice is useful in fresh cuts and wounds. Young leaf paste is useful against headache. Leaf & bark extracts are used in cough, cold and in liver troubles. Bark paste used in toothache.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers Old people in the society.	Tribal villages of Cachar district Different districts	Das et al., 2008 [2] Barbhuiya et al., 2009 [1]
58.	<i>Cinnamomum tamala</i> Nees & Eberm.	Lauraceae	Tejpatha (BN)	Leaf, bark Stem, bark, root Bark, leaf	Soaked leaf is used as carminative. Leaf and bark extracts are used in diarrhoea and chronic dysentery. Used in treatment of diabetes. Bark and leaves are useful in diarrhea.	Old people in the society. Hmar, Manipuri and Barman communities Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Different districts Hailakandi district Tribal villages of Cachar district	Barbhuiya et al., 2009 [1] Khan et al., 2014 [13] Das et al., 2008 [2]
				Leaf	Leaf juice useful in cough	-	Hailakandi district	Khan et al., 2011 [12]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
59.	<i>Cissus quadrangularis</i> L.	Vitaceae	Harjura lat (BN)	Shoot	Shoot paste is used to cure or joining of bones.	Local people of the tribal communities, elderly women, Vaidyas/herbal practitioners	Various villages	Laskar and Dutta, 2009 [11]
60.	<i>Citrullus lanatus</i> (Thunberg)	Cucurbitaceae	Turmuz (BN)	Fruit	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
61.	<i>Citrus reticulata</i> Blanco	Rutaceae	Komla (MZ)	Fruit, root	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
62.	<i>Clerodendron colebrookianum</i> Walp.	Verbenaceae	Anphui (MZ)	Leaf	Used to treat intestinal worm, blood pressure, blood sugar, skin diseases, cough, dysentery	Local people, herbalist and traditional healers	Mashkall village, Cachar district	Chanu et al., 2015 [14]
				Leaf	Juice extracted are used to get rid of lice.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
				Leaf	Boiled leaves are taken to get relief from high blood pressure.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf	Leaf decoction is used in hypertension, rheumatism and also as general tonic	Old people in the society	Different districts	Barbhuiya et al., 2009 [1]
63.	<i>Clerodendrum infortunatum</i>	Verbenaceae	Korobi (BN)	Root, leaf	Root paste is used as bandage in swelling. Leaf extract is used in stomach pain and malaria	Old people in the society	Different districts	Barbhuiya et al., 2009 [1]
64.	<i>Clerodendrum viscosum</i> Vent.	Verbenaceae	Bati (BN)	Leaf	Young leaf juice is taken against diabetes. Young leaves mixed with rice flour is taken for deworming. Young leaf juice is taken early morning to control diabetes. Leaves are used in dysentery.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
65.	<i>Clitoria ternatea</i> Linn	Fabaceae	Aparajita (BN)	Root	Root juice mixed with milk is taken orally against impotency. Seed used in stomach trouble.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf	Leaves used in jaundice and also against impotency	-	Hailakandi district	Khan et al., 2011 [12]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
66.	<i>Cocos nucifera</i> L.	Arecaceae	Narikol (BN) Daab (M)	Fruit	Immature fruit is used to cure dysponea.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
67.	<i>Coix lacrymajobi</i> L.	Poaceae	Angouba (M)	Root	Used in treatment of diabetes	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
68.	<i>Combretum pilosum</i> Roxb.	Combretaceae	Juniloth (BN)	Leaf	Young leaves are taken for deworming.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
69.	<i>Coptis teeta</i> Wall.	Ranunculaceae	Urihangam pal (M)	Leaf	Decoction of leaves is prescribed in fever.	Village old men, medicine man, local men, women and cultivators	Manipuri community	Choudhury et al., 2010 [4]
70.	<i>Cordia dichotoma</i> Forskal	Boraginaceae	Bahubara (BN)	Leaf, fruit	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
71.	<i>Costus speciosus</i> (Koenig) Smith	Zingiberaceae	Keu (BN)	Leaf	Leaf juice are given against snake bite.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
72.	<i>Costus variegata</i>	Zingiberaceae	Kood (BN)	Leaf, stem	Dried powdered leaf and young stem are used for curing piles.	Old people in the society.	Different districts	Barbhuiya et al., 2009 [1]
73.	<i>Croton bonplandianum</i> Bail.	Euphorbiaceae	Photka (BN)	Stem, latex	Stem latex is useful for fresh cuts and wounds to stop bleeding.	Old people in the society.	Hailakandi district	Khan et al., 2011 [12]
74.	<i>Cucurma</i> sps.	Zingiberaceae	Jangli Haldi (BN)	Rhizome	Rhizome is used to cure body pain.	Old people in the society. curing piles.	Different districts	Barbhuiya et al., 2009 [1]
75.	<i>Croton bonplandianum</i> Bail.	Euphorbiaceae	Photka (BN)	Stem, latex	Stem latex is useful for fresh cuts and wounds to stop bleeding.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
76.	<i>Cucurma</i> sps.	Zingiberaceae	Jangli Haldi (BN)	Rhizome	Rhizome is used to cure body pain.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
75.	<i>Curculigo orchoides</i> Gaertn	Amaryllidaceae	Lairudamsia (R) Bengthang (MZ)	Rhizome	Rhizome is useful in diarrhea and jaundice.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
76.	<i>Curcuma aromatica</i> Salisb	Zingiberaceae	Banhalud (BN)	Rhizome	Rhizome is used in constipation.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
77.	<i>Curcuma domestica</i> Valetton	Zingiberaceae	Haldi (BN)	Rhizome	Rhizome paste is rubbed on the injured body parts to reduce pain.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
78.	<i>Curcuma longa</i> L	Zingiberaceae	Yaingang (M) Halud (BN)	Rhizome	Used in treatment of dhatu, urinal problem, cut or wound, body temperature, blood purification, cuts or wounds, and as appetizer Rhizome juice is used to treat piles and urinary tract infections. Crushed rhizome is also used on wounded area for its antiseptic property.	Local people, herbalist and traditional healers. Herbal practitioners or Kavirajs.	Mashkall village, Cachar district Kamranga village, Cachar district	Chanu et al., 2015 [14] Singh et al., 2011 [3]
79.	<i>Cuscuta reflexa</i> Roxb.	Convolvulaceae	Swarmalata (M)	Whole plant	Juice of the rhizome is useful in fever. Used in treatment of diabetes. Used against liver trouble and for healing of wound Boiled plant is considered in chronic fever.	Village old men, medicine man, local people and cultivators Hmar, Manipuri and Barman communities -	Manipuri community Hailakandi district Hailakandi district	Choudhury et al., 2010 [4] Khan et al., 2014 [13] Khan et al., 2011 [12] Choudhury et al., 2010 [4]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
80.	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Durba (MZ)	Leaf	Leaf is used in cuts as antiseptic.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
				Whole plant	Plant juice is taken orally against dysentery. Paste of the grass is used in fresh cuts and injuries to stop bleeding. Juice of the plant mixed with juice of <i>Hibiscus rosa sinensis</i> L. flowers and taken in menstruation troubles. Plant paste is applied on forehead to reduce headache.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Whole plant	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
81.	<i>Cyperus rotundus</i> L.	Cyperaceae	Shembang kaothum (M)	Root	Crushed extract of the roots is prescribed in fever.	Village old men, medicine man, local people and cultivators	Manipuri community	Choudhury et al., 2010 [4]
				Whole plant, rhizome	Used in treatment of diabetes	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
82.	<i>Dactyloctenium aegyptium</i> (L) P. Beauv.	Gramineae	Pungphai (M)	Whole plant	Juice of the fresh plant is used in fever.	Village old men, medicine man, local people and cultivators	Manipuri community	Choudhury et al., 2010 [4]
83.	<i>Datura metel</i> L.	Solanaceae	Dhatura (BN)	Root	Roots are used in treatment of asthma.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
				Leaf	Dried leaves used against skin diseases.	-	Hailakandi district	Khan et al., 2011 [12]
84.	<i>Datura stramonium</i> L.	Solanaceae	Dhutra (BN)	Seed	Seeds are taken once daily as the remedy for skin diseases.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf	Leaves used against asthma & skin diseases	-	Hailakandi district	Khan et al., 2011 [12]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
85.	<i>Dioscorea alata</i> L.	Dioscoreaceae	Chupri alu (BN)	Tuber	Tubers are used in piles	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
86.	<i>Diplazium esculentum</i> (Retz.) Sw.	Athyriaceae	Paloi (BN)	Fronde	Young fronds are used as vegetable, which stimulate digestion.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
87.	<i>Docynia indica</i> (Wall.) Decne	Rosaceae	-	Fruit	Fruit is used to cure stomach problem.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
88.	<i>Dryopteris</i> sp.	Dryopteridaceae	-	Leaf	Leaf juice is used to cure body pain.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
89.	<i>Eclipta prostrata</i> L.	Asteraceae	Kariya (BN)	Whole plant	Whole plant is used in fresh cuts and wounds. Plant juice is useful for hair growth. Stem and leaf juice is taken against constipation.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
90.	<i>Embllica officinalis</i> Gaertn.	Euphorbiaceae	Amlaki (BN)	Seed, leaf, fruit	Juice of the leaves along with the honey is recommended in fever	Village old men, medicine man, local men, women and cultivators	Manipuri community	Choudhury et al., 2010 [4]
91.	<i>Enhydra fluctuans</i> Lour.	Asteraceae	Hincha (BN)	Stem	Stem is used in gastric and ulcers. Whole plant is useful in constipation.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
92.	<i>Equisetum debile</i> Roxb	Equisetaceae	Lai utong (MZ)	Whole plant	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
93.	<i>Eugenia cumini</i> (L.)	Myrtaceae	Jam	Fruit	Ripe fruit is eaten raw to cure diabetes.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
94.	<i>Eupatorium odoratum</i> L.	Asteraceae	KiRinga lota (AS)	Leaf	Leaf by grinding is used to cure scar.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
95.	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Gakhir lota (AS)	Whole plant	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
96.	<i>Euphorbia nerifolia</i> L.	Euphorbiaceae	Hiju (BN)	Leaf	Leaves used against cough.	-	Hailakan di district	Khan et al., 2011 [12]
97.	<i>Eupatorium cannabinum</i>	Asteraceae	Tongol loti (AS)	Leaf	Leaf juice is used to cure tooth pain.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
98.	<i>Ficus benghalensis</i> L.	Moraceae	Bar (MZ)	Whole plant	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
99.	<i>Ficus religiosa</i> L.	Moraceae	Ashwata (BN)	Leaf, bark	Leaf bark juice is used as tonic.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
100.	<i>Garcinia cowa</i> Roxb. ex Choisy	Clusaceae	Aswat (M)	Root-bark, root	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
101.	<i>Globa multiflora</i> Wallich	Zingiberaceae	Bonthekra (BN)	Leaf, fruit	Leaf juice is used in diarrhoea. Raw fruits are used in dysentery.	Old people in the society.	Different districts	Barbhuiya et al., 2009 [1]
102.	<i>Gloriosa superba</i> L.	Colchicaceae	Jungliada (BN)	Rhizome	Rhizome useful in fresh cuts, wounds and swelling. Rhizome paste is applied on forehead to reduce headache.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
			Agnisikha (MZ)	Whole plant	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
103.	<i>Glycosmis pentaphylla</i> (Retz.) Correa	Rutaceae	Bonjamir (BN)	Leaf	Fresh leaf juice is useful in skin diseases.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
104.	<i>Gmelia arborea</i> Roxb	Verbenaceae	Gamari (M)	Leaf, stem, fruit	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
105.	<i>Goodyera procera</i> (Ker Gawl.) Hook.	Orchidaceae	-	Whole plant	Dysentery, bloody dysentery.	Local people, herbalist and traditional healers	Mashkall village, Cachar district	Chanu et al., 2015 [14]
106.	<i>Hedyotis diffusa</i> Willd.	Rubiaceae	Limorui (M)	Whole plant	Decoction of the plant is recommended in intermittent fever.	Village old men, medicine man, local people and cultivators	Manipuri community	Choudhury et al., 2010 [4]
107.	<i>Helianthus annuus</i> L.	Asteraceae	Numitiei (M)	Leaf, flower	Decoction of the leaves and flowers along with honey is prescribed in malarial fever.	Village old men, medicine man, local people and cultivators	Manipuri community	Choudhury et al., 2010 [4]
108.	<i>Heliotropium indicum</i> L.	Boraginaceae	Hatisura (BN)	Root, leaf	Root juice is useful against ophthalmia. Fresh leaf extract is applied externally in fresh cuts.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
109.	<i>Hibiscus abelmoschus</i> L.	Malvaceae	Shamal moturi (M)	Leaf	Decoction of the leaves is given in typhoid fever.	Village old men, medicine man, local people and cultivators	Manipuri community	Choudhury et al., 2010 [4]
110.	<i>Hibiscus mutabilis</i> L.	Malvaceae	Rakta jaba (BN)	Flower	Paste of flower applied externally to fresh cuts and wounds.	-	Hailakandi district	Khan et al., 2011 [12]
111.	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	Jaba (BN)	Flowers	Flowers paste is applied on fresh cuts and wounds. Extract of flowers is used in irregular menstruation trouble.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Flower	Used in dysentery and diabetes.	Local people, herbalist and traditional healers.	Mashkall village, Cachar district	Chanu et al., 2015 [14]
				Flower	Flower is used to cure skin diseases.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
112.	<i>Homalomena aromatica</i> (Roxb) Schott	Araceae	Gandikochu/ Gandkochu (BN)	Petioles	Petioles taken as vegetable for purification of blood and healing of wound caused during child birth.	-	Hailakandi district	Khan et al., 2011 [12]
113.	<i>Houttuynia cordata</i> Thunb.	Saururaceae	Tengalai (BN)	Plant	Whole plant except root is taken for the purification of blood. Plant is used against jaundice and also as appetizer.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
114.	<i>Hoya globulosa</i> Hook. f.	Asclepiadaceae	-	Leaf	Leaf paste is applied on bone fracture.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
115.	<i>Hydrocotyl javanica</i> Thunb.	Apiaceae	Kudmanko ni (BN)	Plant	Whole plant is useful in stomach trouble.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
116.	<i>Hydrocotyle sibthorpioides</i> Lam.	Umbelliferae	Paruklei (M)	Plant	Juice of the plant along with honey is prescribed in typhoid fever.	Village old men, medicine man, local people and cultivators	Manipuri community	Choudhury et al., 2010 [4]
117.	<i>Hydrolea zeylanica</i> Linn	Hydrophyllaceae	Kasshra (M)	Leaf, twig	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
118.	<i>Hyptis suaveolens</i> (L.) Poit	Lamiaceae	Bilati tulsi (BN)	Twig, leaf	Young twigs and leaf are useful against skin diseases.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
119.	<i>Hyptis suaveolens</i> Poirlet	Lamiaceae	Nagatulsi/ Thukma (BN)	NM	Used against stomach trouble and in constipation.	-	Hailakandi district	Khan et al., 2011 [12]
120.	<i>Imperata cylindrica</i> Linn	Poaceae	Oolo (M)	Root	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
121.	<i>Ipomoea aquatica</i> Forsskål	Convolvulaceae	Kalmisak (BN)	Leaf, twig	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
122.	<i>Ipomoea carnea</i> Jacq.	Convolvulaceae	Kalam (BN)	Plant	Fresh milky juice of the plant is useful in fresh cuts and wounds.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
123.	<i>Jatropha curcas</i> L.	Euphorbiaceae	Laibheren dha (MZ)	Leaf, twig	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
124.	<i>Justicia adhatoda</i> L.	Acanthaceae	Boga bahak (AS)	Leaf	Used in treatment of cough, itch, fever, dysentery, cough, fever, bronchial congestion, muscular sprain, gout, itching, diabetes and as anti-venom.	Local people, herbalist and traditional healers.	Mashkall village, Cachar district	Chanu et al., 2015 [14]
125.	<i>Justicia gendarussa</i> Burm.f.	Acanthaceae	Tita bahak (AS)	Leaf	Leaf useful in bone fracture.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
126.	<i>Kalanchoe pinnata</i> Persoon	Crassulaceae	Nongman gkha (MZ)	Leaf, flower, root	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
127.	<i>Kyllinga triceps</i> Rotlb.	Cyperaceae	Patharkuc hi (M)	Whole plant	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
128.	<i>Lagenaria siceraria</i> (Molina)	Cucurbitaceae	Chumthan g achrouba (M)	Whole plant	Decoction of the plant is given in fever.	Village old men, medicine man, local men, women and cultivators	Manipuri community	Choudhury et al., 2010 [4]
129.	<i>Lantana camara</i> L. var. <i>aculeate</i>	Verbenaceae	Pani lao (AS)	Leaf	Warm leaves are wrapped on the boils to make pus out.	Herbal practitioners or kavirajs	Kamranga village, Cachar district	Singh et al., 2011 [3]
130.	<i>Lawsonia innermis</i> L.	Lythraceae	Japnlao (MZ)	Leaf	Young leaves mixed with salt are eaten to stimulate digestion. Leaves are used in fresh cuts and wounds.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
131.	<i>Leonurus sibiricus</i> L.	Lamiaceae	Mehendi (BN)	Leaf	Fine paste of the leaves is used to prevent snakebite.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
			Raktaron (BN)	Leaf	Leaf is used against hypertension	-	Hailakandi district	Khan et al., 2011 [12]
				Root	Root used in stomach trouble.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
132.	<i>Leucas aspera</i> Spreng.	Lamiaceae	Drun kalash (BN)	Twig	Used in blood purification, skin diseases, cough, fever, stomach disorder, appetite, liver trouble and eye drop Leaf used against stomach trouble.	Local people, herbalist and traditional healers. Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Mashkall village, Cachar district	Chanu et al., 2015 [14]
133.	<i>Lipia geminata</i> H.B. & kunth	Verbenaceae	Pichas ban (BN); Motka (BN)	Leaf	Fresh leaf juice is useful against fresh cuts and wounds.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
134.	<i>Macaranga denticulata</i> Muell.-Arg.	Euphorbiaceae	Loko (MZ)	Stem	Stem juice is useful in skin diseases, cuts and wounds.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
135.	<i>Mangifera indica</i> L.	Anacardiaceae	Am (BN)	Leaf	Leaf juice is taken against gastric problems, ulcers and diarrhoea.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
136.	<i>Melastoma malabathricum</i> L.	Melastomaceae	Loloti (BN) Taintong (R)	Fruit, stem	Fruits are used as one of the ingredients in impotency. Stem is used in toothache.	Hmar, Manipuri and Barman communities Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Hailakandi district Tribal villages of Cachar district	Khan et al., 2014 [13] Das et al., 2008 [2]
137.	<i>Melia composita</i> Willd.	Meliaceae	Gura Neem (BN)	Leaf	Leaf is useful in stomach and liver troubles.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
138.	<i>Mentha arvensis</i> L.	Lamiaceae	Pudina (BN)	Leaf	Pounded leaves mixed with salt are eaten against stomach trouble.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf	Leaf juice useful in stomach trouble	-	Hailakandi district	Khan et al., 2011 [12]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
139.	<i>Michelia champaca</i> L.	Magnoliaceae	Tita sopa (AS)	Leaf, seed	Leaf is used against colic. Seed is used as appetizer and also in liver and stomach troubles.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
140.	<i>Mikania micrantha</i> Kunth	Asteraceae	Repujiloth (BN)	Plant, leaf	Whole plant except root is useful against diarrhoea. Fresh leaf paste is applied externally in fresh cuts and wounds. Leaf juice is useful in eye trouble.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
141.	<i>Mikania cordata</i> (Burm.f.)	Asteraceae	Refujee lat (BN)	Leaf	Crushed leaves are used to stop bleeding. Leaf paste used in ring worm and other skin infections	Herbal practitioners or kavirajs	Kamranga village, Cachar district	Singh et al., 2011 [3]
142.	<i>Mimordica charantia</i> L.	Cucurbitaceae	Korola (MZ)	Leaf	Leaf juice is used as blood coagulant.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
143.	<i>Mimosa pudica</i> L.	Fabaceae	Hlonuor (MZ)	Leaf, root	Used in treatment of diabetes. Leaf juice is used externally on piles and boils. Leaf paste is applied on bone injuries as pain killer, and in tumor for early burst. Root juice mixed with fruit juice of <i>Dillenia indica</i> and honey, and taken to cure dysentery.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
144.	<i>Momordica charantia</i> L.	Cucurbitaceae	Karanaakhabi (M)	Leaf, fruit	Leaf juice is used externally on piles and boils. Leaf paste is applied on bone injuries as pain killer, and in tumor for early burst. Root juice mixed with fruit juice of <i>Dillenia indica</i> and honey, and taken to cure dysentery.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Whole plant	Used in treatment of diabetes	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
				Leaf	Leaf juice is taken once daily in morning to control diabetes.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf, fruit	Leaf juice an dried fruit used in fever.	Herbal practitioners or kavirajs	Kamranga village, Cachar district	Singh et al., 2011 [3]
				Leaf	Fresh juice of the leaves is given in fever.	Village old men, medicine man, local men, women and cultivators	Manipuri community	Choudhury et al., 2010 [4]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
145.	<i>Moringa oleifera</i> Lam.	Moringaceae	Shajna (M) Sajna (BN)	Green stick Bark Bark	Green stick is good for stomach. Bark paste is used externally on the effected body parts to reduce rheumatic pain. Bark used against rheumatic pain.	Village headman, medicine men Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers. -	Various villages Tribal villages of Cachar district Hailakandi district	Laskar and Dutta, 2009 [11] Das et al., 2008 [2] Khan et al., 2011 [12]
146.	<i>Morus australis</i> Poirin Lam.	Moraceae	Tuthphol (BN)	Fruit, root	Fruits are useful in cough. Root is used in jaundice.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
147.	<i>Musa balbisiana</i> Colla	Musaceae	Athiya Kol (AS)	Flower	Inflorescence is used to cure jaundice	Herbal practitioners or kavirajs	Kamranga village, Cachar district	Singh et al., 2011 [3]
148.	<i>Musa paradisiaca</i> L.	Musaceae	Kola (BN)	Fruit	Unripe fruits used in dysentery and diarrhea	-	Hailakandi district	Khan et al., 2011 [12]
149.	<i>Nerium indicum</i> Mill.	Apocynaceae	Karabi (BN)	Leaf	Leaf is used against skin diseases.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
150.	<i>Nyctanthus arbor-tristis</i> L.	Oleaceae	Karobi (BN)	Stem	Stem juice used in skin diseases	-	Hailakandi district	Khan et al., 2011 [12]
			Sefali (BN) Singgralei (M) Shiwli (MZ)	Leaf Leaf Leaf Leaf Leaf	Leaf juice mixed with honey are given to cure fever. Leaf extract taken orally against chronic fever and liver trouble. Juice of the fresh leaves is prescribed in chronic fever. Used in treatment of diabetes. Leaves are useful in liver trouble. Leaves are used in fever.	Village headman, medicine men - Village old men, medicine man, local people and cultivators Hmar, Manipuri and Barman communities Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Various villages Hailakandi district Manipuri community Hailakandi district Tribal villages of Cachar district	Laskar and Dutta, 2009 [11] Khan et al., 2011 [12] Choudhury et al., 2010 [4] Khan et al., 2014 [13] Das et al., 2008 [2]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
151.	<i>Ocimum americanum</i> L.	Labiatae	Tulsiamuba (M)	Leaf	Juice of the leaves along with the honey is given in fever.	Village old men, medicine man, local people and cultivators	Manipuri community	Choudhury et al., 2010 [4]
152.	<i>Ocimum gratissimum</i> L.	Lamiaceae	Ramtulsi (M) Ram-Tulsi (BN)	Leaf Shoot, leaf	Juice of the leaves along with honey prescribed in fever. Shoots are used to treat fever. Leaves are used to treat cough, rheumatism, flatulence, abdominal pain.	Village old men, medicine man, local people and cultivators Local people, herbalist and traditional healers	Manipuri community Mashkall village, Cachar district	Choudhury et al., 2010 [4] Chanu et al., 2015 [14]
153.	<i>Ocimum sanctum</i> L.	Lamiaceae	Barpai (MZ) Tulshi (BN)	Leaf	Leaf juice is used to cure cough.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
				Root, leaf	Root is used against scorpion sting and snakebite. Leaf juice mixed with honey and taken to cure cough and fever. Juice of tulsi, turmeric and onion is given to cure gout. Leaf juice is also used in constipation	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf	Juice of leaves with honey is recommended in fever.	Village old men, medicine man, local people and cultivators	Manipuri community	Choudhury et al., 2010 [4]
				Leaf	Leaf juice with honey taken orally against cough and cold.	-	Hailakandi district	Khan et al., 2011 [12]
154.	<i>Opuntia dillenii</i> Haworth	Cactaceae	Fanimansha (BN)	Phylloclade	Paste of phylloclade useful in burns.	-	Hailakandi district	Khan et al., 2011 [12]
155.	<i>Oroxylon indicum</i> (L.) Kurz	Bignoniaceae	Sona (BN)	Bark, root	Bark extract is used as hair tonic. Dried powdered root is used as anti-helminthic and carminative.	Old people in the society.	Different districts	Barbhuiya et al., 2009 [1]
156.	<i>Oxalis corniculata</i> L.	Oxalidaceae	Amrul (BN)	Whole plant	Whole plant except root is used in eye trouble. Plant juice is taken against dysentery also applied on fresh cuts and injury to stop bleeding. Whole plant is used as appetizer.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
157.	<i>Parkia roxburghii</i> G. Don.	Fabaceae	Yong Chak (M) Zwangta (MZ)	Seed	Gas problem of stomach.	Local people, herbalist and traditional healers.	Mashkall village, Cachar district	Chanu et al., 2015 [14]
158.	<i>Parkia timoriana</i> (DC.) Merr.	Fabaceae	Khorial (AS)	Seed, pods	Seeds are useful to removal of intestinal gas. Tender pods are used for intestinal disorder.	Herbal practitioners or kavirajs	Kamrang village, Cachar district	Singh et al., 2011 [3]
159.	<i>Phlogacanthus thysiflorus</i> (Roxb) Nees.	Acanthaceae	Tita bahak (AS)	Leaf	Decoction of the leaves is prescribed in fever.	Village old men, medicine man, local people and cultivators	Manipuri community	Choudhury et al., 2010 [4]
160.	<i>Phlogacanthus tubiflorus</i> Nees	Acanthaceae	Titaphul (AS)	Leaf	Boiled leaf juice is given in cough.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
161.	<i>Phyllanthus acidus</i> L.	Phyllanthaceae	Pomloki (AS)	Leaf	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
162.	<i>Phyllanthus emblica</i> L.	Phyllanthaceae	Amlika (M) Amlokhi (BN)	Seeds Fruit	Used in treatment of diabetes. Fruit is used to cure jaundice.	Hmar, Manipuri and Barman communities Village headman, medicine men	Hailakandi district Various villages	Khan et al., 2014 [13] Laskar and Dutta, 2009 [11]
163.	<i>Piper betle</i> L.	Piperaceae	Pan (BN) Panamana (M)	Leaf	Juice of leaf is taken with honey to cure cough. Juice is also acts as blood coagulant on external application.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
164.	<i>Piper nigrum</i> L.	Piperaceae	Gulmarich (BN)	Seed	Powdered seed with palm candy taken orally against cough.	Village old men, medicine man, local people and cultivators	Manipuri community	Choudhury et al., 2010 [4]
165.	<i>Plumbago rosea</i> L.	Plumbaginaceae	Kengol (M)	Stem	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
166.	<i>Plumeria acuminata</i> Ait	Apocynaceae	Gulich (BN)	Leaf	Leaf is used in stomach trouble.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
167.	<i>Polygonum barbatum</i> L.	Polygonaceae	Anbon (MZ)	Stem	Stem is used in gastric trouble and ulcers.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
168.	<i>Pongamia glabra</i> Vent.	Leguminosaceae	Karanja (BN)	Seed	Oil from seed is good for skin.	Village headman, medicine men.	Various villages	Laskar and Dutta, 2009 [11]
169.	<i>Portulaca oleracea</i> L.	Portulacaceae	Nunia Sag (BN)	Stem, leaf	Stem and leaves are used as appetizer.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
170.	<i>Pothos scandens</i> L.	Araceae	Haranga (BN)	Plant	Whole plant is used in bone fracture.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
171.	<i>Pouzolzia hirta</i> (Bl.) Hassk.	Urticaceae	Chirchira (BN)	Leaf	Leaf and stem are used as lactagogue.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
172.	<i>Psidium guajava</i> L.	Myrtaceae	Karthal (MZ) Piyara (BN)	Leaf	Tender leaves are taken to cure abdominal pain.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
				Root, bark	Root bark juice is useful in diarrhoea.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf	Juice of young leaf taken orally against worms.	-	Hailakandi district	Khan et al., 2011 [12]
173.	<i>Punica granatum</i> L.	Punicaceae	Dalim (BN)	Leaf	Leaf juice is taken orally in dysentery.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf	Leaf juice taken orally against jaundice.	-	Hailakandi district	Khan et al., 2011 [12]
174.	<i>Rauwolfia serpentina</i> Benth.	Apocynaceae	Sarpagondha (AS)	Leaf	Leaf juice is taken as soup for controlling high BP.	Old people in society	Different districts	Barbhuiya et al., 2009 [1]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
175.	<i>Ricinus communis</i> L.	Euphorbeaceae	Muth (MZ) Barela (BN)	Leaf	Leaf is used to cure body ach.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
				Seed, leaf	Seed oil is used externally against rheumatism. Leaves are used against body ache and headache	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf	Leaves used against bleeding piles.	-	Hailakandi district	Khan et al., 2011 [12]
176.	<i>Saccharum officinarum</i> L.	Graminaceae	Kuiar (BN)	Stem	Juice is taken in raw to cure jaundice.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
177.	<i>Santalum album</i> L	Santalaceae	Chandan (BN)	Bark	Used in headache, fever, skin disease, and warm sensation of head, feet, palms.	Local people, herbalist and traditional healers.	Mashkall village, Cachar district	Chanu et al., 2015 [14]
178.	<i>Saraca asoca</i> (Roxb.) De Wilde	Caesalpinaceae	Maikampar (MZ)	Bark	Bark juice is used as tonic.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
179.	<i>Saxifraga ligulata</i> Murray	Saxifragaceae	Patharkuc hi (BN)	Root	Root is used to cure stomach pain.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
180.	<i>Scoparia dulcis</i> L.	Scrophulariaceae	Bon dhonia (AS)	Leaf, whole plant	Leaf juice is used in jaundice. Plant juice is useful against irregular menstruation.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
181.	<i>Scutellaria discolor</i> Coleb.	Lamiaceae	Yenakhat (M)	Leaf	Fresh leaf juice is used against cuts and wounds.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
182.	<i>Seasumum indicum</i> L.	Pedaliaceae	Til (BN)	Seed	Seeds with fish is given to mother to increase lactation.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
183.	<i>Senna auriculata</i> L.	Fabaceae	Jayantri (AS)	Flower	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
184.	<i>Sida rhombifolia</i> L.	Malvaceae	Boriata (AS)	Whole plant	Plant extract is useful in rheumatism and urinary trouble.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
185.	<i>Smilax macrophylla</i> Willd.	Liliaceae	Kumarilota (BN)	Stem, leaf	Stem, young leaf extract is taken as general tonic. Dried powder is used against jaundice and urinary diseases.	Old people in the society.	Different districts	Barbhuiya et al., 2009 [1]
186.	<i>Solanum melongena</i> L.	Solanaceae	Bengena (AS)	Fruit	Fruits are used to remove unwanted materials from boil.	Herbal practitioners or kavirajs	Kamranga village, Cachar district	Singh et al., 2011 [3]
187.	<i>Solanum nigrum</i> L.	Solanaceae	Kaikor (BN)	Stem, leaf, seed	Stem and leaves are useful in constipation. Seeds are also used in liver trouble.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
188.	<i>Solanum torvum</i> Swartz	Solanaceae	Bhi tita (AS)	Fruit, root, seed	Fruit paste is useful against headache. Root useful against fever and cough. Seeds useful in toothache.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
189.	<i>Solanum virginianum</i> L.	Solanaceae	Kantakari (BN)	Leaf, fruit	Cough, bone and muscle pain, fever, dysentery, dyspepsia, tooth ache.	Local people, herbalist and traditional healers.	Mashkall village, Cachar district	Chanu et al., 2015 [14]
190.	<i>Solanum xanthocarpum</i> Schrad & Wendl.	Solanaceae	Tita bekhuri (AS)	Root	Root is used against small pox.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
191.	<i>Spilanthes calva</i> DC.	Asteraceae	Huhoni (AS)	Flower	Fresh flower is rubbed and kept near gums to cure the toothache.	Herbal practitioners or kavirajs	Kamranga village, Cachar district	Singh et al., 2011 [3]
192.	<i>Spilanthes paniculata</i> DC.	Asteraceae	Ankacha (MZ)	Stem, leaf, flower	Young stem and leaf are taken for deworming, constipation and liver trouble. Fresh flower is applied against toothache.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
193.	<i>Sterculia villosa</i> Roxb.	Sterculiaceae	Khapui (MZ)	Root	Root juice is used as tonic. Root juice mixed with honey and taken orally against blood dysentery.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
194.	<i>Streblus asper</i> Loureiro	Moraceae	Doi-Shang (MZ)	Bark	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
195.	<i>Swertia chirayita</i> (Roxb.) Buch.-Ham.	Gentianaceae	Chirata (AS)	Leaf, stem	Leaf, young stem soaked overnight in water and taken early morning as general tonic, also used in stomach ache, chronic fever, bronchial asthma, liver troubles.	Old people in the society.	Different districts	Barbhuiya et al., 2009 [1]
196.	<i>Swertia paniculata</i> Wall.	Gentianaceae	NM	Whole plant	Whole plant soaked overnight in water is used in liver troubles, intestinal worms and malaria.	Old people in the society	Different districts	Barbhuiya et al., 2009 [1]
197.	<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Kalojam (BN) Kala jam (M)	Leaf, seed	Young leaf juice is taken once daily in empty stomach to check blood sugar. Seed powder is given in diabetes.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
198.	<i>Tabernaemontana divaricata</i> (L) R.Br	Apocynaceae	Jongli togor (BN)	Leaf, seed Bark, fruit, seeds	Leaf, seed juice taken orally against diabetes. Used in treatment of diabetes.	- Hmar, Manipuri and Barman communities	Hailakandi district Hailakandi district	Khan et al., 2011 [12] Khan et al., 2014 [13]
199.	<i>Tagetes patula</i> L.	Asteraceae	Genda (BN)	Root Bark	Cure a wound area. Bark paste is useful in burns.	Local people, herbalist and traditional healers.	Mashkall village, Cachar district Hailakandi district	Chanu et al., 2015 [14] Khan et al., 2011 [12]
200.	<i>Tagetes erecta</i> L.	Compositae	Narji phul (BN)	Leaf, whole plant	Leaf juice is useful in fresh cuts and wounds. Plant juice used in dysentery.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
201.	<i>Tamarindus indica</i> L.	Caesalpinaceae	Tatol (BN) Tengtere (MZ)	Leaf Seed, leaf	Juice of the leaf is used for curing scar and cut. Leaves boiling in water and taken cure urine problem Seeds useful against snakebite. Leaf extract against rheumatism	Village headman, medicine men Village headman, medicine men Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Various villages Various villages Tribal villages of Cachar district	Laskar and Dutta, 2009 [11] Laskar and Dutta, 2009 [11] Das et al., 2008 [2]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
202.	<i>Terminalia arjuna</i> (Roxb.) Weight & Arn.	Combretaceae	Arjun (BN)	Bark	Bark is boiled and taken to cure tuberculosis.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
				Bark, stem, leaf	Bark, young stem and leaf extract is used as cardiotoxic, in high blood pressure and in liver complaints.	Old people in the society.	Districts of Barak Valley	Barbhuiya et al., 2009 [1]
				Bark, leaf	Bark and leaf juice is useful in liver trouble.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Bark	Bark extract with milk taken orally to get relief from heart troubles.	-	Hailakandi district	Khan et al., 2011 [12]
203.	<i>Terminalia bellirica</i> Roxb	Combretaceae	Bohera (BN)	Fruit	Fruits used against piles and diarrhea.	-	Hailakandi district	Khan et al., 2011 [12]
				Leaf, stem, fruit	Leaf and young stem juice is used in urinary troubles. Fruit juice is used for curing liver disorders and indigestion.	Old people in the society.	Different districts	Barbhuiya et al., 2009 [1]
204.	<i>Terminalia chebula</i> Retz	Combretaceae	Hortoki (MZ) Haritaki (BN)	Fruit	Fruits used as appetizer are also applied against small pox.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
				Fruit	Fruit keeping in water in one night is used as purgative.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
				Bark, fruit	Bark, fruit juice is used as cardiotoxic, purgative. Bark paste is used in skin ulcer, toothache.	Old people in the society.	Districts of Barak Valley	Barbhuiya et al., 2009 [1]
				Seeds	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
				Fruit	Paste of fruit made in iron pan applied externally promote hair growth.	-	Hailakandi district	Khan et al., 2011 [12]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
205.	<i>Thevetia nerifolia</i> Juss.	Apocynaceae	Utonglei (M)	Fruit	Outer cover of fruits are prescribed in chronic fever.	Village old men, medicine man, local men, women and cultivators	Manipuri community	Choudhury et al., 2010 [4]
206.	<i>Tinospora cordifolia</i> (Wild) Miers.	Menispermaceae	Gulacha (BN) Golancha (M)	Leaf, stem	Leaf extract is used in diarrhoea, dysentery. Dried powdered stem is used in anaemia and urinary troubles.	Old people in the society	Different districts	Barbhuiya et al., 2009 [1]
				Whole plant	Extract of the whole plant used as antipyretic	Village old men, medicine man, local men, women and cultivators	Manipuri community	Choudhury et al., 2010 [4]
				Whole plant	Plant juice is useful against swelling. Stem juice is taken against gastric trouble and ulcer.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
207.	<i>Torenia diffusa</i> D. Don.	Scrophulariaceae	-	Whole plant	Used in treatment of diabetes	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
208.	<i>Trigonella foenum-graecum</i> L.	Fabaceae	Methee (M) (BN)	Leaf, seed	Whole plant is used against headache.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
209.	<i>Urena lobata</i> L.	Malvaceae	Bachita (BN)	Root	Used in treatment of diabetes.	Hmar, Manipuri and Barman communities	Hailakandi district	Khan et al., 2014 [13]
210.	<i>Vernonia cinerea</i> (L.) Less.	Asteraceae	Hiyalmutra (BN)	Leaf	Root is useful against rheumatic pain.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
211.	<i>Vitex negundo</i> L.	Verbenaceae	Tingpir (MZ)	Leaf	Leaf juice is useful in leucorrhoea.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
				Leaf	Leaf juice boiled with garlic and mustard oil and applied externally to get relief from rheumatic pain.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]

Table 1. Continued

Sl no	Plant name	Family	Vernacular name	Part used	Folk uses	Informants	Availability	Reference
212.	<i>Wedelia chinensis</i> (Osbeck.) Merr.	Asteraceae	Bhimraj Kesaraj (AS)	Stem, leaf	Stem and leaf juice is useful for hair growth.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
213.	<i>Xanthium strumarium</i> L.	Asteraceae	Agora (AS)	Fruit	Fruits are used against toothache.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers	Tribal villages of Cachar district	Das et al., 2008 [2]
214.	<i>Zingiber</i> sp.	Zingiberaceae	Jangli Adha (BN)	Rhizome	Juice is taken after roasting for curing cough.	Village headman, medicine men	Various villages	Laskar and Dutta, 2009 [11]
215.	<i>Zingiber officinale</i> Rosc	Zingiberaceae	Ada (AS)	Rhizome	Rhizome juice is mixed with honey and prescribed in cold fever.	Village old men, medicine man, local men, women and cultivators	Manipur community	Choudhury et al., 2010 [4]
216.	<i>Ziziphus jujuba</i> Lam.	Rhamnaceae	Bagari bogori (AS)	Bark	Bark juice is useful in stomach trouble.	Village chiefs, medicine men, Ojha, local old women, school teachers, forest dwellers.	Tribal villages of Cachar district	Das et al., 2008 [2]
217.	<i>Ziziphus mauritiana</i> Lamarck	Rhamnaceae	Boroi/ Kul (BN)	Bark	Bark is medicinally useful.	-	Hailakandi district	Khan et al., 2011 [12]

M, Manipuri; MZ, Mizo; BN, Bengali; AS, Assam.

*Sl no 1 and 27 are the same.

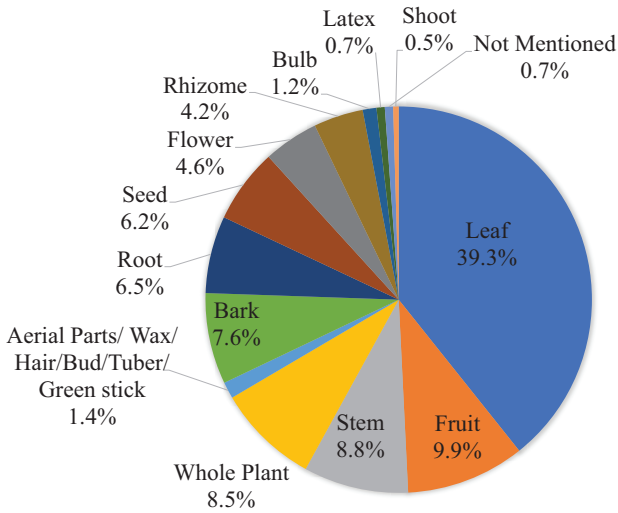


Figure 2. Utilization of plant parts for their medicinal value.

healers, elderly village people, village headman, various ethnic groups, and tribal communities; however, some studies were organized across people from different cultures and societies.

DISCUSSION

It is estimated that a large proportion of the global population still relies on herbal medicines for their primary health care needs. People have always used plants as a source of medicine to cure various ailments. Our ancestors learned to utilize different plants for medical purposes through trial and error, and the knowledge has been passed from generation to generation without any written script. This knowledge of plants is still used in rural and ethnic communities [15, 16]. Ethnomedicinal and ethnobotanical surveys remain an important approach to

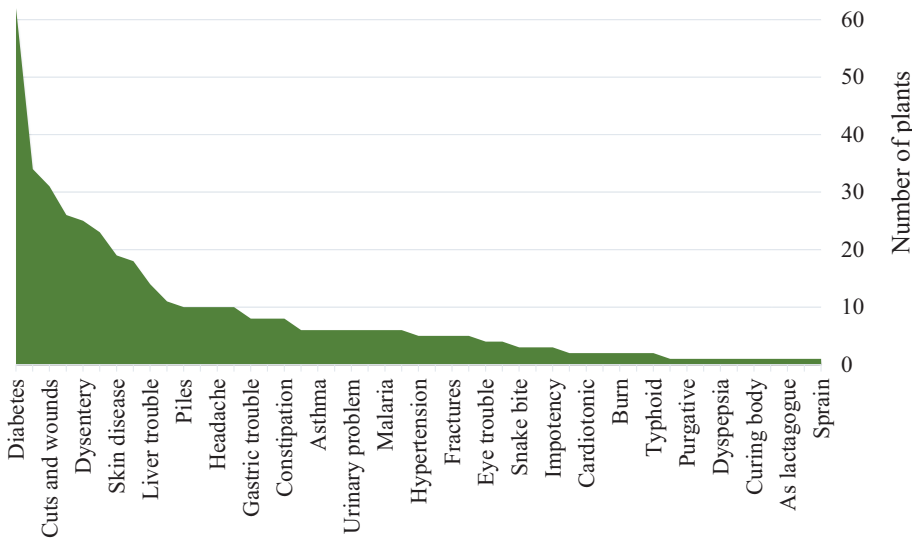


Figure 3. Number of plants used in different medicinal purposes.

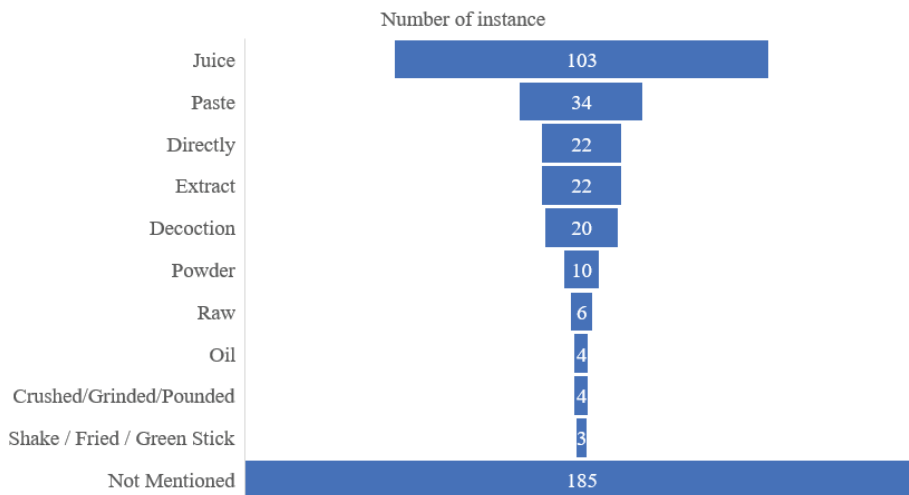


Figure 4. Ethnomedicinal preparation of plant parts in management of different disease.

finding unexplored plant resources that can be an important source for new drug discoveries [15]. Indigenous people have utilized many plants for medicinal purposes to maintain their health. There are countless possibilities for new drugs based on folk uses of plants [17]. It is estimated that only 5-15% of higher plant species (about 250,000 species) have been scientifically explored [16]. In India, folk medicine plays an important role in rural areas. It is estimated that traditional medicine use 8,000 plant species and more than 25,000 herbal formulas [18].

Barak Valley can be considered as a vast repository of medicinal plants although very few publications highlighted the significance of medicinal plants available in this area. Medicinal plants of the Barak Valley have been the subject of few of the publications and the significance of ethnomedicinal research has received little attention. After a critical search, we can able to retrieve only eight journal article (ethnomedicinal survey) which described the folk medicinal plants of the region which was included in this systematic review. Of course a number of other documents also highlighted the medicinal plants of Assam/North East India taking Barak valley as a part of the research area. Some of the literature like Saha and Dutta (2001) [19], Borthakur (1997, 2004) [20, 21], Bhattacharjee et al. (1980) [22], Dutta and Dutta (2001) [23] also highlighted the importance of medicinal plants of this area and our observations are also in the line of such documents. Expansion of modern civilization has a huge impact on the practice of traditional knowledge, most primitive civilizations have abandoned their cultural and traditional beliefs and traditions. There will be a gradual separation from culture and tradition, resulting in the loss of plant knowledge and practices in daily life. As a result, there is an urgent need to record such information for the benefit of mankind as a whole, before these people entirely lose their knowledge of the therapeutic benefits of plants.

This systematic review identified only eight ethnobotanical surveys, which is small considering the area, diversity of medicinal plants, and nature of the indigenous people. However, this review depicted the medicinal value of 216 plant species. Ethnobotany, scientific investigations focusing on the observations of ethnobotanical surveys, and validations of ethnomedicinal claims are important in identifying possible targets for new drug discoveries.

CONCLUSION

In the Barak Valley region, ethnomedicine is prevalent, and

the people have a deep understanding of how plants can be used for different ailments. Furthermore, the Barak Valley contains a large number of plants used to treat ailments in the daily lives of the people in this region, whose potential has not yet been scientifically investigated. This paper provides significant data on the diversity, indigenous knowledge, and folk medicinal value of medicinal plants. This data is important for discovering of new pharmaceuticals based on plants used in traditional medicine in the Barak Valley.

CONFLICT OF INTEREST

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