Quantitative ethnobotanical analysis of ethnomedicinal flora used by the Eastern Himalayan Indigenous Communities of Assam, India

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Ethnobotany Research and Applications 27:43 (2024) - http://dx. doi.org/10.32859/era.27.43.1-39
Manuscript received: 05/06/2024 - Revised manuscript received: 25/09/2024 - Published: 27/09/2024

Research

Abstract

Background: For generations, indigenous communities have used plants as ethnomedicinal remedies, offering affordable treatments where modern medicine is scarce, especially in remote areas. However, this knowledge is eroding due to dwindling belief and interest among future generations, and lack of comprehensive documentation. This review aims to document the ethnomedicinal use of therapeutic flora by indigenous communities in Assam's hilly districts through a critical examination of selected literature. Investigating the ethnobotanical expertise of these tribes may unveil insights for novel pharmaceuticals and preserving these crucial traditional practices.

Methods: A total of 12 research papers published from 2004 to 2020 were analyzed to study the use of ethnomedicinal plants by tribal communities in Dima Hasao and Karbi Anglong districts of Assam. Data analysis involved Family Use Value (FUV), Use Value of species (UV), Informant Consensus Factor (FIC), Fidelity Level (FL) and plant part used (%) using Microsoft Excel 2013.

Results: The findings revealed the utilization of 273 species of ethnomedicinal plants from 208 genera and 83 families, addressing 10 broad disease categories and 91 specific types of ailments. The majority of remedies consisted of plant leaves (35%) with *Morinda angustifolia* Roxb. being the most commonly prescribed species by local herbalists (UV=5.00).

Conclusions: The study highlighted that tribal communities hold extensive knowledge and reliance on traditional medicine despite modern healthcare advancements. Plants exhibiting higher UVs, UVf, FL and FIC are crucial for conservation prioritization. This documented knowledge can guide further research potentially leading to discovering bioactive compounds for modern medicines.

Keywords: Dima Hasao, Karbi Anglong, Ethnomedicinal plants, Indigenous Communities, Diseases.

Background

Throughout the ages, plant resources have been an integral part of human culture. The knowledge of plant wealth has played a vital role in promoting human well-being, with plants serving as remedies for various ailments across history and around the world for millennia (Haq et al. 2023). The tapestry of intricate harmony has woven together nature and indigenous communities, meeting their primal needs in the guise of sustenance, attire, and abode. Amidst this symphony of symbiosis, these communities have developed their indigenous knowledge systems with respect to curing of diseases and ailments that has been curated across the ages (Saikia & Parkash, 2016). Humanity's deep knowledge of medicinal plants has evolved through centuries of battling illnesses, leading to the discovery of healing properties hidden in the barks, seeds, fruit bodies, and other botanical marvels (Ahmad et al. 2021). Plants hold paramount significance in ethnomedicine for indigenous populations, relying extensively on traditional herbal remedies due to their profound belief in the efficacy of plant-based cures (Niazi & Monib, 2023).

The boon of age-old remedies, with their cost-effective and accessible healing properties, thrives among distant tribal communities residing in diverse hinterlands, where access to pricey contemporary medicines remains scarce (Terangpi et al. 2014). Inscriptions narrating on how to identify and address the social, cultural, and economic factors that impact health issues are often transmitted orally from generation to generation (Gulzar et al. 2019).

The Indian traditional medicinal systems also detailed the use of over 700 plant herbs in curing diseases in Atharvaveda, Charak Samhita and Shusrut Samhita (Dash & Sharma, 2008). These references bear a testament to the indigenous traditional knowledge that have been in use for ages which also highlights the importance of plants as a potential source of medicine.

The World Health Organization reported that approximately 80% of the global population relies on traditional medicine, with 60% of rural Indians using herbal treatments, emphasizing the significance of ethnomedicinal information (Singh, 2022). In India, about 65% of the total population mainly depends on traditional therapy for their health care needs (Sen & Chakraborty, 2015) as it is bountiful in medicinal plants and exhibits a high diversity of ethnomedicinal wealth (Prakash et al. 2008). In a larger context, "ethnomedicine" gracefully fuses the essence of "ethno" and "medicine." "Ethno," intertwined with its kin "ethnic," invokes a sense of shared lineage among individuals with a unique cultural identity, while "medicine" embodies the vast realm of wisdom and concepts encompassing health and well-being (Sonowal, 2018).

Ethnomedicine covers healthcare systems that include beliefs and practices relating to diseases and health, which are products of indigenous cultural development and are not explicitly derived from a conceptual framework of modern medicine (Iwu, 2002) whereas Chattopadhyay (2010), defined Ethnomedicine or ethnic medicine or “folk medicine” as the medical systems based on the cultural beliefs, the totality of health knowledge, values and practices of specific ethnic groups or particular culture and concern about the care and treatment of illness including all the clinical and non-clinical activities that relate to their health needs. Hence, it can be attributed that the fusion of botanical wonders and ancestral lore constitutes the very essence of ethnomedicinal panaceas. The north-eastern part of India is a biodiversity hotspot with approx. 145 tribal communities inhabiting this region. Around 1350 plant species have been identified as being employed in the region traditional medicinal preparations (Tamang et al. 2023).

Across the annals of time, a profusion of scholarly endeavors has delved into the ethnomedicinal explorations of the tribal enclaves in Assam such as on Boro Kacharis (Basumatary et al. 2014), Koch Rajbangshis (Deka & Nath, 2015), Hmar (Nath & Choudhury, 2009), illuminating the use of ethnomedicines as the primary healthcare measure over modern medicines, which indicates the use of ethnomedicines as the norm in tribal population. According to Census of India (2011), the cumulative tribal population of Assam reaches a count of 3,884,371, with Karbi Anglong contributing 5,38,738 and Dima Hasao accounting for 1,51,843. A significant proportion of this community, living in far-flung rural realms, remains bereft of convenient ingress to contemporary pharmaceuticals. The resulting void engendered by such inaccessibility has compelled the reliance on ethnomedicines as the sole recourse for remedying afflictions and maladies. The tribal communities find themselves profoundly intertwined with the wealth of ancestral plant knowledge, an invaluable legacy that has flourished through generations of experiential wisdom and time-honored customs (Lalramnghinglova & Jha, 2000). Due to urbanization and modernization, the treasure trove of ethnomedicinal wisdom cherished by the tribes are passed down via oral tradition through ages without much written records which highlights the plight of erosion of this traditional knowledge (Rout et al. 2009).

The current exposition endeavors to chronicle the myriad botanical wonders embraced by the indigenous dwellers of Dima Hasao and Karbi Anglong in Assam, India. Moreover, this manuscript astutely quantifies the profusion of ethnomedicinal flora and the wide array of maladies adroitly addressed by these remarkable communities.

Materials and Methods

Study area

The ethereal embrace of the Eastern Himalayan realm in the state of Assam enshrines the majestic districts of Karbi Anglong (unidivided) and Dima Hasao. Both the districts were constituted under the Sixth Schedule of the Indian Constitution owing to its significant proportion of tribal population with their own unique cultural and linguistic identities to grant autonomy over their administrative set-up which are in line with their traditional systems. They are administered as Karbi Anglong Autonomous Council (KAAC) and North Cachar Hills Autonomous Council (NCHAC) (Fig. 1). Karbi Anglong lies between 25°32'N to 26°36'N latitudes and 92°10'E to 93°50'E longitudes. In 2016, the district was split into two districts, namely Karbi Anglong and West Karbi Anglong with their headquarters at Diphu and Hamren, respectively. Many tribes such as Karbi, Dimasas, Bodos, Hmar, Tiwas, Garos, Khasi, Chakmas and Rengma Nagas inhabit this region. It has a total geographical area of 10,434 km^2 (undivided), which accounts for 13.3% of Assam (Census 2011). The total tribal population of the district is 5,38,738 persons which accounts for 56% of the total population of the district (Census 2011). The total forest cover of the district is 7, 833.91 km^2 that accounts for 75.08 % of the total geographical area of the district (FSI 2021). The area mostly consists of undulating and hilly terrain with numerous rivers and streams.

Dima Hasao lies between 24°57'N to 25°43'N latitude and 92°32'E to 93°28'E longitude with its headquarters at Haflong. It occupies a total geographic area of 4,888 km2. Topographically, the district forms a rugged hilly country constituting the eastern flanks of the Jaintia Hill of Meghalaya and the northern flanks of the Borail range.

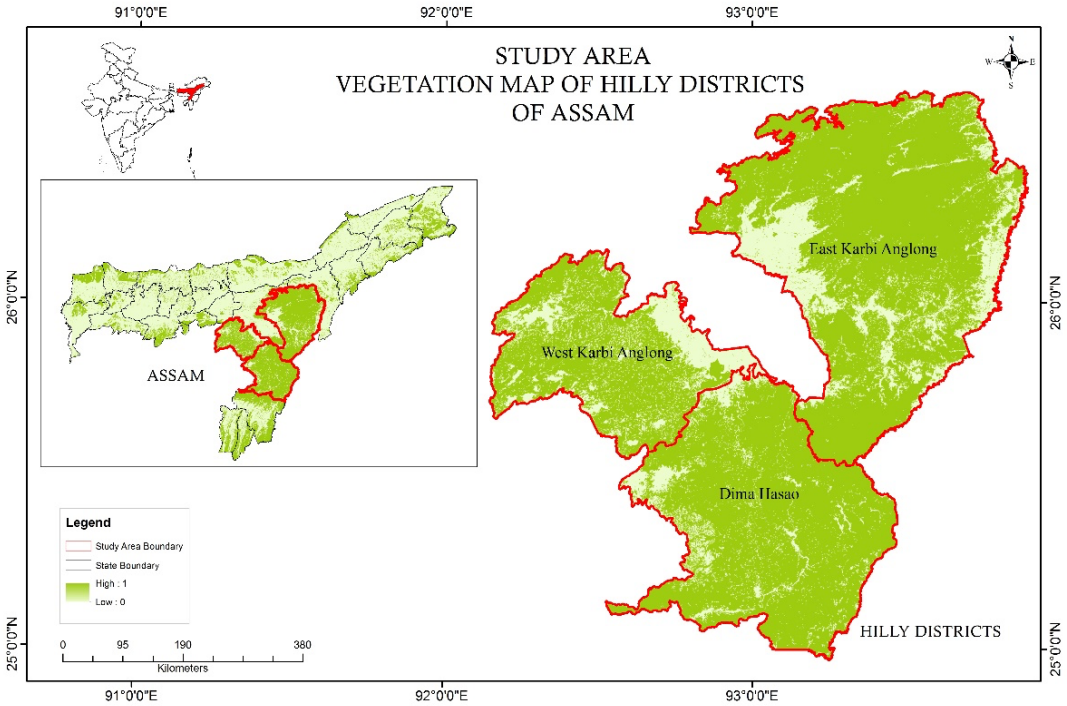

Figure 1. Location map of the study area

Data collection

For the purpose of the study, qualitative and empirical data pertaining to ethnomedicinal plants used by the indigenous tribal communities of Dima Hasao and Karbi Anglong districts of Assam were collected through an extensive literature review from online databases like Academia.edu, ResearchGate, Semantic Scholar, Google scholar etc. by using keywords like 'ethnomedicine', 'tribes of Dima Hasao and Karbi Anglong'. A total of 11 research papers published between the years 2004 to 2020 was found to report on the ethnomedicinal plants used by the tribal communities of these two districts. The accepted botanical names and author citations of the plant species mentioned in the original papers were updated by consulting the World Flora Online (www.wfoplantlist.org).

Statistical Analysis

In this study, the concept of pseudo-informant was used instead of informants, as described by Phumthum et al. (2018) and Tardío and Pardode-Santayana (2008). The pseudo-informants were the authors of the published papers used as source of data/information in this study. The results of the ethnobotanical survey were analyzed using the Family Use Value (FUV), Use Value (UV), Informant Consensus Factor (FIC) and Fidelity Level (FL). All analysis was carried out with Microsoft Excel 2013.

Family use value (FUV): The FUV identify the significance of plant families. It is an index of cultural importance which can be applied in ethnobotany to calculate the value of biological plant taxon. Phillips and Gentry (1993) introduced a formula to illustrate the significance of botanical species in cultural contexts. The modified equation of Tardío and Pardo-de-Santayana (2008) was used to calculate the family Use Values (UVf) as presented below:

$$UVf = \sum Uf \ / \ Nf$$

Where, Uf represents the number of uses mentioned by all pseudo-informants for a given family f (use reports forthe family f), and Nf is the total number of pseudo-informants that reported family f.

Use Value (UV): The use value of species (UV) is a quantitative method that demonstrates the relative importance of species known locally. The modified equation of Tardío and Pardo-de-Santayana (2008) was also used to calculate use value of species (UVs) as presented below:

$$UVs=Ui/N$$

Where Ui is the number of use reports mentioned by all pseudo-informant (i) and N is the total number pseudo-informants interviewed for agiven plant species.

Informant Consensus Factor (FIC): In addition, the Informant Consensus Factor (FIC) was calculated following Heinrich et al. (1998) presented as:

$$FIC = (Nur-Nt) / (Nur-1)$$

Where, Nur is the number of use-reports in each category and Nt is the number of species used in each category. The value of FIC ranges between 0 to 1, indicating a high value close to 1 as few species are used by a large number of people and vice versa.

Fidelity Level (FL): Fidelity level (FL) is the percentage of informants who mentioned the uses of certain plant species to treat a particular ailment in the study area. The FL index is calculated using the formula of Friedman et al. (1986) which presented as:

$$FL\%=(Ip/Iu) \times 100.$$

Where Ip is the number of pseudo-informants who independently indicated the use of a species for the same major ailment and Iu the total number of pseudo-informants who mentioned the plant for any major ailment.

Results and Discussion

Screening of research papers from 2004 to 2020

The studies taken into consideration in this present review have reported 273 ethnomedicinal plants used against a wide range of ailments and diseases by the tribal communities of Karbi Anglong and Dima Hasao districts of Assam (Appendix I). A total of 11 studies were reviewed, out of which 10 studies were based on a particular tribe while one study was carried out on 3 tribes taken altogether. Six studies reported on ethnomedicinal plants of Karbi tribe (Teron & Borthakur 2013, Terangpi et al. 2014, Teron 2019, Bhattacharjee 2018, Rengma et al. 2018, Baidya et al. 2020) while one study each on other tribes, viz., Dimasa (Rout et al. 2009), Lushai (Sajem & Gosai 2010), Bodo Kachari (Basumatary et al. 2014), Zeme Nagas (Tamuli & Saikia 2004), Jaintia (Sajem & Gosai 2006) and Karbi, Pnar, Tiwa (Teron 2019). The aforementioned studies employed group discussion, personal interview, focus group discussion and participant observation as the field survey methods in the original research (Table 1).

Table 1. Checklist of selected published research papers on ethnomedicinal plants used by the indigenous tribal communities of Dima Hasao and Karbi Anglong, India

Ethnic tribes	No. of species	Informant characteristics	Field survey methods	Authors
Bodo Kachari	44	Traditional healers and village headman	Interview and observation	Basumatary et al. 2014
Dimasa	47	Traditional healers and jhum cultivators	Semi structured questionnaires, group discussion and informal interviews	Rout et al. 2009
Jaintia	39	Village headman, educated medicine man, cultivators	Semi structured questionnaires	Sajem & Gosai, 2006
Karbi	38	Traditional healers	Pre-structured questionnaire interview	Baidya et al. 2020
Karbi	54	Elderly person	Unstructured interviews, group discussions and questionnaire-based interviews	Teron & Borthakur, 2013
Karbi	27	Elderly person	Open structured interview	Bhattacharjee, 2018
Karbi	26	Elderly person	Open structured interview	Rengma et al. 2018
Karbi	28	Elderly person	Semi structured interview and focus group interview	Terangpi et al. 2014
Karbi, Tiwa and Pnar	201	Traditional healers	Group discussion, semi-structured interview and participant observation	Teron, 2019
Lushai	31	Village headman and traditional healers	Semi-structured questionnaires and group discussions	Sajem & Gosai, 2010
Zeme Nagas	33	Village headman, elderly person and educated medicine men	Interview and observation	Tamuli & Saikia, 2004

Ethnomedicinal plant diversity, habit, and plant parts used by the tribes

For the purpose of the study, the repetitive plant species were removed and it enlisted a total of 273 species of ethnomedicinal plants belonging to 83 families. The families with the highest number of species were Lamiaceae (16 species) and Asteraceae (16 species), followed by Leguminaceae and Solanaceae (14 species each), Zingberaceae and Acanthaceae (11 species), Rutaceae, Poaceae and Araceae (10 species), Cucurbitaceae (9 species), Apocynaceae and Malvaceae (7 species), Euphorbiaceae, Polygonaceae and Amaranthaceae (6 species), Plantaginaceae, Rubiaceae and Begoniaceae (5 species) and Phyllanthaceae (4 species). The remaining 33 families were represented by a single species, whereas 21 families represented by two species and 10 families by three species each.

Amidst the rich array of plant families revered for their medicinal properties in the hilly area, it is the Lamiaceae and Asteraceae family that reigns supreme, casting its botanical spell over the hilly landscape. This reign is not co-incidental but rather a reflection of the family's exceptional ability to thrive across varied ecosystems, supported by a remarkable diversity of species rich in bioactive compounds (Tugume et al. 2016). The ethnomedicinal plants have been categorized into ten major groups of diseases and ailments which comprises of 91 specific diseases that are prevalent and treated by the eight tribal communities of Karbi Anglong and Dima Hasao district of Assam. The enlisted ethnomedicinal plants contain the botanical name, family, IUCN status, parts used, diseases cured and name and location of the tribes (Appendix I). The review reported that 50.45% of the ethnomedicinal plants were herbs, followed by trees (22.38%), shrubs (14.80%), and climbers (11.91%) {Fig 2(a)}. Most of the remedies were prepared from leaves (35%), followed by fruits (12.53%), roots (10.44%), stems (6.52%), barks (5.48%), whole plant (5.22%), rhizomes (4.70%), shoots (4.70%), seeds (3.91%), flowers (3.65%), tubers (2.61%) and twigs (2.08%) {Fig 2(b)}. The IUCN-based conservation status of the ethnomedicinal plants revealed two Endangered, three Vulnerable, three Critically Endangered, three Near Threatened, one extinct in wild, seven data deficient, 79 least concerned and 179 not evaluated {Fig 2(c)}.

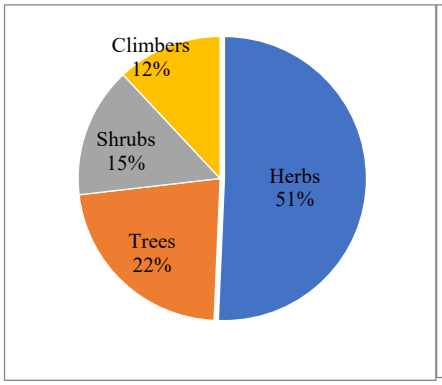

Figure 2(a). Ethnomedicinal plants habit

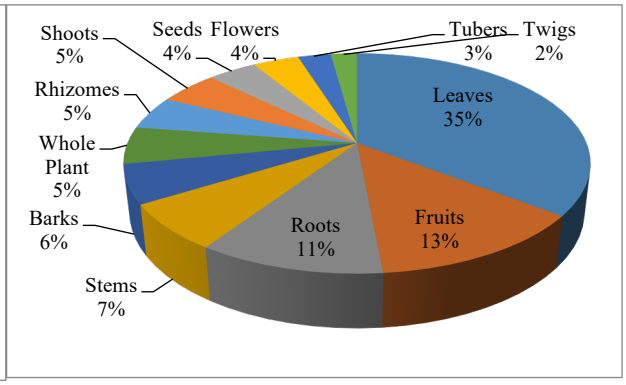

Figure 2(b). Ethnomedicinal plants part used (%)

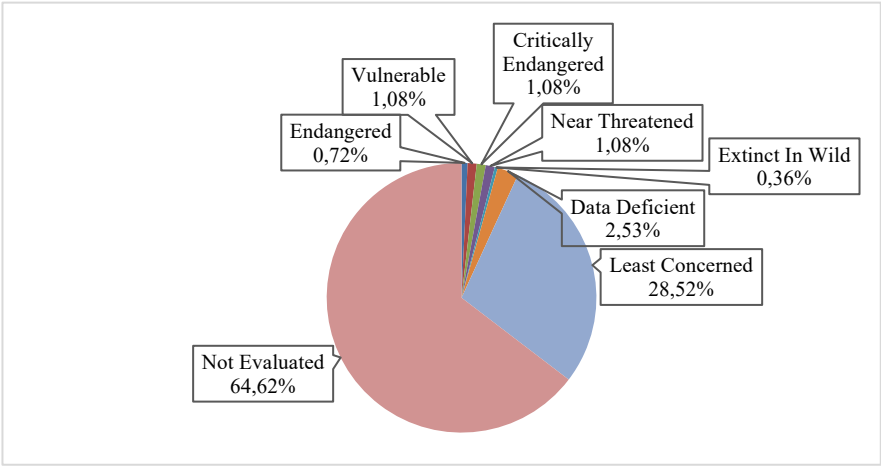

Figure 2(c). Conservation status (IUCN) of enlisted ethnomedicinal plants

Species utilization pattern against different disease categories

The present review revealed that a total of 91 different types of ailments have been traditionally treated using different plant species. However, there are ten common categories for illnesses that every single disease falls under based on user reports (Table 2). Out of the reported species, 14 species were utilized to treat respiratory conditions, 18 species were used to treat skeletomuscular pain, 63 for treating dermatological disorder, 19 for treating Odontological disorders, 94 for gastrointestinal disorders, 148 for general health disorders, 16 for nose, eye, ear and throat problems, 50 species for Gynecological disorders, 16 to treat the cardio-vascular disorder and 16 were used to treat Orthopedic disorders (Table 2).

Cardiovascular disorders

Cardiovascular diseases are an array of diseases that affect the cardiovascular system i.e., the heart and the blood vessels, which are characterized as the most common diseases of the heart and blood vessel and the brain (Nason 2007). Blood pressure, diabetes, hypertension, blood coagulant and chest pain are included in this category (Table 2). Under this category, 16 species belonging to 14 families were found to be used for the treatment of cardiovascular disease (Fig. 3) and this category holds the lowest useful category (3%) among the entire 10 disease category mentioned in the major traditional use (Fig. 4). The review showed the use of eight species for treatment of blood pressure, seven species for treatment of diabetes, two species for treatment of chest pain and one species for treatment of hypertension. However, one species may have more than one treatment in the respective category. *Catharanthus roseus* (L.) G.Don, *Clerodendrum infortunatum* L., *Clerodendrum glandulosum* Lindl. were found to be used for high blood pressure and diabetes treatment. The use of *Alpinia nigra* (Gaertn.) Burtt, *Lablab purpureus* (L.) Sweet and *Momordica charantia* L. for the chest pain treatment was found to be used by the tribes of Zeme Nagas and Bodo Kacharis in Dima Hasao and Karbi Anglong district (Basumatary et al. 2014, Baidya et al. 2020). The use of *Catharanthus roseus*, *Clerodendrum infortunatum* and *Clerodendrum glandulosum* for the treatment of diabetes and *Momordica charantia* as an analgesic for chest pain is also found in other parts of the world (Jadeja et al. 2011, Bhutkar & Bhise 2012, Barman et al. 2013, Patel et al. 2010).

Orthopedic disorders

It is seen that orthopedic disorders have the largest burden in the developing world which constitutes more than three-fourths of the world's population (Aluede et al. 2012). Bone fracture constitutes a health issue around the globe which pose an economic burden (Court-Brown & Caesar 2006, Polinder et al. 2016). This category of disease includes bone fracture, rheumatism and joint pain (Table 2). In this category, 16 species belonging to 11 families were found to be used as an ethnomedicinal source for treatment of orthopedic disorders (Fig. 3) and this category also holds the lowest useful category (3%) among the entire 10 disease category mentioned in the major traditional use (Fig. 4). Altogether five species were found to be used for the treatment of joint pain, seven species for treatment of bone fracture and four species for treatment of rheumatism. *Cissus quadrangularis* L. and *Hydrocotyle javanica* Thunb. were found to be used for treating bone fracture by Bodo Kachari and Zeme tribe (Basumatary et al. 2014, Tamuli & Saikia 2004). The Karbi and Zeme tribe uses *Amblovenatum opulentum* J.P. Roux and *Momordica charantia* for the treatment of rheumatism (Teron 2019, Tamuli & Saikia 2004). The use of *Cissus quadrangularis* in healing process of fractured bone has been reported by Brahmkshatriya et al. (2015). The leaves of *Momordica charantia* are also widely used for rheumatism therapy (Polito et al. 2016 a).

Respiratory disorders

Respiratory diseases affect both adults and children which is constantly increasing. World Health Organization (WHO) and other agencies reported that around 400 million people in the world are suffering with mild to moderate conditions of asthma and respiratory disorder alone (Shukla et al. 2020). This category of disease includes bronchitis, asthma and sinusitis (Table 2). In this category, 14 species belonging to 11 families were found to be used for treatment of respiratory disorders (Fig. 3) and holding the lowest useful category (3%) among the entire 10 disease category mentioned in the major traditional use (Fig. 4). Altogether six species were found to be used for the treatment of asthma, four species for treatment of sinusitis, two species for treatment of bronchitis and rest of the species were found to be used against pharyngitis, lung tonic, other breathing problems etc. It was seen that *Justicia adhatoda* L., *Alpinia galanga* (L.) Willd. and *Alstonia scholaris* (L.) R. Br. were used by the Zeme tribe for the treatment of bronchitis and asthma (Tamuli & Saikia 2004). *Catharanthus roseus* (L.) G. Don, *Centella asiatica* (L.) Urb. and *Clerodendrum infortunatum* were used by the Jaintia and Lushai tribe for the treatment of asthma (Sajem & Gosai 2006, Sajem & Gosai 2010). The Karbis were also found to use *Justicia adhatoda* for curing sinusitis (Bhattacharjee 2018, Baidya et al. 2020). The rhizomes of *Alpinia galanga* are widely used in the traditional treatment of bronchitis in tropical areas of south and east India (Seo et al. 2013). Gupta et al. (2008) reported the use of *Clerodendrum infortunatum* in the treatment of bronchitis, asthma, fever, etc. in Indian folk medicine.

Gynecological disorders

Gynecological disorders are the leading cause of morbidity and health care expenditures in women (Mishra et al. 2013). The various factors influencing gynecological problems include menstrual hygiene, sex hygiene, socio-economic status, cultural habits and educational status of women (Beaulah 2018). Uterine disorder, abortion, leucorrhea, menstrual cramps, prolapsed genital, painful urination and white discharge are considered under this category (Table 2). In this category, 50 species belonging to 35 families were found to be used for treatment of gynecological disorders (Fig. 3) and this category holds nine percent among the entire 10 disease category mentioned in the major traditional use (Fig. 4). Altogether three species were found to be used for the treatment of uterine disorder and one species were found to be used for the treatment of leucorrhoea and rest species for the treatment of abortion, menstrual cramps, prolapsed genital, painful urination and white discharge. The leaves of *Cycas revoluta* Thunb and *Erythropalum scandens* Blume were found to be used by the Lushai and Zeme tribe for uterine disorders (Sajem & Gosai 2010, Tamuli & Saikia 2004). The leaves and stem of *Plumbago zeylanica* L., *Aloe vera* (L.) Burm.f., *Justicia adhatoda* and *Rubus alceifolius* Poir were found to be used for the treatment of abortion, leucorrhea, prolapsed genital and white discharge by Karbi and Bodo Kachari tribe (Terangpi et al. 2014, Basumatary et al. 2014). The root powder of *Plumbago zeylanica* L. has been reported to initiate abortion upon its application to ostium uteri by Choudhary et al. (1982). The juice of *Aloe vera* was also reported to be highly effective on the treatment of leucorrhea by (Dhinagari 2011).

Gastrointestinal disorders

Gastrointestinal disorders are highly prevalent and almost 40% of people at one time or two-third of these people are affected by this disorder which includes irritable bowel syndrome, functional dyspepsia, or functional constipation (Black *et al*. 2020). Cholera, constipation, intestinal worms, dyspepsia, dysentery, diarrhea, indigestion, piles, flatulence, stomachache and ulcer are included in this category (Table 2). In this category, 94 species belonging to 47 families were found to be used for treatment of gastrointestinal disorders (Fig. 3) and this category holds second highest percentage (22%) among the entire 10 disease category mentioned in the major traditional use (Fig. 4). The review revealed that 42 species were used for the treatment of dysentery, followed by 12 species for constipation, nine species for diarrhea, seven species for indigestion, six

species for the treatment of piles, four species for treatment of dyspepsia and ulcer, one species for flatulence, one species each for cholera and rest of the species are used against gastritis and other gastrointestinal disorders. The use of *Centella asiatica* (L.) Urb. was found to be used for the treatment of stomachache, indigestion, flatulence and dysentery by the Jaintia and Zeme tribe (Sajem & Gosai 2006, Tamuli & Saikia 2004). While *Drymaria cordata* (L.) Willd. ex Schult., *Garcinia pedunculata* Roxb. ex Buch. -Ham., *Paederia foetida* L. and *Psidium guajava* L. were found to be used for the treatment of stomach ache and dysentery by Karbi, Bodo Kachari and Tiwa tribes (Teron 2019, Rengma *et al*. 2018, Basumatary *et al*. 2014, Teron 2019). The flower bud, bark and shoot of *Hibiscus rosa-sinensis* L. was found to be used for the treatment of three gastrointestinal disorders such as constipation, stomachache and dysentery by the Bodo Kachari and Karbi tribe (Basumatary *et al*. 2014, Baidya *et al*. 2020). *Curcuma longa* L., *Mikania micrantha* Kunth, *Oxalis debilis* var. *corymbosa* (DC.) Lourteig and *Persicaria chinensis* (L.) H. Gross was also found to be used for the treatment of dyspepsia by the Jaintia and Lushai tribes (Sajem & Gosai 2006, Sajem & Gosai 2010) while only the root of *Tragia involucrata* L. was found to be effective against intestinal worms by the karbi tribe (Teron 2019). Use of *Paederia foetida* for effective treatment of stomach ache and dysentery was also reported by Patel (2017). The potential of *Hibiscus rosa-sinensis* for its use in the treatment of constipation and diarrhea was also reported by Gilani *et al.* (2005). The potential of *Tragia involucrata* L. as an anthelminthic agent was reported by Patil (2015).

Odontological disorders

As per 2017 Global Disease Burden Study it is estimated that nearly 3.5 billion people suffer from oral disease which is almost 50% of the world's population (Dye 2017). Dental cavities, toothache and gum bleeding are included in this category (Table 2). In this category, 19 species belonging to 11 families were found to be used for treatment of odontological disorders (Fig. 3) and this category also falls under the lowest useful category (3%) among the entire 10 disease category mentioned in the major traditional use (Fig. 4). It was found that three species were used in the treatment of dental cavities, 15 species for toothache and one species for gum bleeding and cavity building. *Ageratum conyzoides* (L.) L., *Scoparia dulcis* L. and *Tabernaemontana divaricata* (L.) R.Br. ex Roem. & Schult. were found to be used for the treatment of dental cavities by the Karbi and Lushai tribe (Baidya *et al*. 2020, Sajem & Gosai 2010), while the stem of *Jatropha curcas* L. and leaves of *Premna mollissima* Roth. were found to be used for the treatment of toothache by the Karbi tribe (Rengma *et al*. 2018, Sajem & Gosai 2010). Only a single species, *Plantago major* L. was found to be used in treatment of gum bleeding by the Lushai tribe (Sajem & Gosai 2010). *Ageratum conyzoides* in combination with *Breynia nivosus* W. Bull was found to be effective in treatment against dental cavities in Nigeria (Amadi *et al*. 2007) while *Tabernaemontana divaricata* was also reported to be effective against dental cavities (Unissa *et al*. 2018). Yernazarova *et al*. (2019) also reported the effectiveness of *Plantago major* against gum bleeding.

Musculoskeletal disorders

Musculoskeletal disorders are a widespread and increasing occupational health problems in the workplace worldwide (Luan *et al*. 2018). The musculoskeletal disorders are generally seen to occur due to excessive repetition, awkward postures and heavy lifting (Da Costa 2010). The International Labour Organization (ILO) and the World Health Organization (WHO) regard MSDs as a work-related disease, which is also referred to as a "new epidemic" that should be researched and solved (Luan *et al*. 2018). Arthritis, muscle ache, joint pain, muscle stiffness, leg pain and body ache are included under this category (Table 2). In this category, 18 species belonging to 16 families were found to be used for treatment of musculoskeletal disorders (Fig. 3) and this category holds only 3% among the entire 10 disease category mentioned in the major traditional use (Fig. 4). The roots and leaves of *Paederia foetida* L. were found to be used for the treatment of muscle stiffness, body ache and joint pain by the Karbi tribe (Baidya *et al*. 2020). *Aristolochia saccata* Wall., *Murraya paniculata* (L.) Jack, *Olax acuminata* Wall. ex Benth., *Piper longum* L., *Pogostemon linearis* (Benth.) Kuntze, *Urena lobata* L. were found to be used for the treatment of body ache by the Bodo Kachari, Karbi, Zeme and Lushai tribe (Basumatary *et al*. 2014, Teron 2019, Tamuli & Saikia 2004, Sajem & Gosai 2010) whereas the rhizome of *Zingiber officinale* Roscoe was used against arthritis by the Bodo Kachari tribe (Basumatary *et al*. 2014). The use of *Paederia foetida* in the treatment of body ache was reported by Soni *et al*. (2013). The therapeutic role of *Zingiber officinale* in treatment against rheumatoid arthritis was reported by Al-Nahain (2014).

Dermatological disorders

The prevalence of skin diseases is the fourth most common cause of all human disease that affects one-thirds of the world's population but is grossly undermined (Karimkhani *et al*. 2017, Hay *et al*. 2014). Burn, fungal skin disease, skin itching, leprosy, ring worm, skin disease, allergy and small pox are included in this category (Table 2). In this category, 63 species belonging to 37 families were found to be used for treatment of dermatological disorders (Fig 3) and this category is the third highest useful category (16%) among the entire 10 disease category mentioned in the major traditional use (Fig 4). In this category

20 species were found to be used in the treatment of skin disease, four species were found to be used in the treatment in burn and skin itch, two species for the treatment of allergy, three species for the treatment of boils, 19 species for treating skin cuts and wounds, two species for the treatment of fungal skin disease and nine species for treating skin worms diseases, five species for treating leprosy and three species for the treatment of pox. However, one species may have more than one treatment in the respective category. The leaves bark and root of *Senna tora* (L.) Roxb. were reported to be used in the treatment of skin diseases, ring worms and leprosy by the Bodo Kachari and Jaintia tribes (Sajem & Gosai 2006, Basumatary *et al*. 2014). While *Argemone mexicana* L., *Arundo donax* L., *Senna tora* and *Dysoxylum gotadhora* (Buch.-Ham.) Mabb. reported single use against treatment of leprosy by Bodo Kachari and Karbi tribes (Basumatary *et al*. 2014, Sajem & Gosai 2006, Teron 2019). The leaves and root of *Eupatorium chinense* L. and *Mimosa pudica* L. were reported to be used against fungal skin disease by the Zeme tribe (Tamuli & Saikia 2004). Aggarwal *et al*. (2011) reported the use of *Senna tora* against leprosy, ringworm infection and skin diseases while *Argemone mexicana* was reported to be effective against leprosy and other skin diseases (Brahmachari *et al*. 2013). The anti-fungal property of *Mimosa pudica* was also reported against selected human pathogens by Vijayalakshmi & Udayakumar (2018).

ENT disorders

Ear Nose Throat (ENT) disorders comprise of diseases of ear, nose and throat and constitute a serious public health problem that affects all age groups (WHO 2008). These disorders are mostly overlooked as large number of patients are affected at any given time and also due to their non-life-threatening nature (Dye 2017, Kishve et al. 2010). Eye disorder, nasal bleeding and ear ache are included under this category (Table 2). In this category 16 species under 13 families are used for the treatment of ENT disorders (Fig. 3) and this category also falls under lowest useful category (3%) among the entire 10 disease category mentioned in the major traditional use (Fig. 4). *Bryophyllum pinnatum* (Lam.) Oken, *Ageratum conyzoides* and *Centella asiatica* were solely found to be used by the Lushai, Jaintia, Karbi and Zeme tribe for treatment of eye disorders (Sajem & Gosai 2010, Sajem & Gosai 2006, Baidya *et al*. 2020, Tamuli & Saikia 2004). *Commelina benghalensis* L. and *Plantago major* were reported to be use for treatment of ear ache (Bhattacharjee 2018, Sajem & Gosai 2010) while only *Catharanthus roseus* was reported to be used for nasal bleeding by Jaintia tribe (Sajem & Gosai 2006). The use of *Ageratum conyzoides* has been reported to be effective in the treatment of cataract and eye injury in adults and children by herbal practitioners of Kenya (Klauss & Adala 1994). The traditional use of *Plantago major* has also been reported in the treatment of ear ache in Iran (Zagari 1992).

General health disorders

The common diseases general in nature like swelling due to bee/wasp sting, blood coagulant, cancer, cerebral tonic, chest pain, colic disorder, cough & cold, dehydration, dog bite, dumbness, ear ache, epilepsy, eye infection, fever, food poising, fresh cuts & wounds, gonorrhoea, headache, hyperlactation, hyperthermia, influenza, insectbite, jaundice, killing head lice, liver disease, malaria, measles, nose bleed, paralysis, rabies, scorpion bite, snake bite, tuberculosis, tumour and vomiting were included in this category. In this category, 148 plant species under 61 families are used (Fig. 3) and this category falls under the highest useful category (35%) among the entire 10 disease category mentioned in the major traditional use (Fig. 4) which are used for the treatment of 42 types of ailments (Table 2), and out of which 17 plant species were used against cough & cold, 19 species against fever, 38 species each against jaundice and malaria, and the remaining species against vomiting, various poison treatment & other disorder. However, one species may have more than one treatment in the respective category.

Table 2. Major and specific types of ailments under each broad category and the number of species/families of ethnomedicinal plants used for different groups of ailments

Major Traditional Use Disease Category	Specific types of ailments	No. of ailments	No. of Species	No. of Families
Category 1: Cardiovascular disorders	Blood pressure, Diabetes, hypertension, blood coagulant and chest pain	5	16	14
Category 2: Orthopedic disorders	Bone fracture, Rheumatism and joint pain	3	16	11
Category 3: Respiratory disorders	Bronchitis, Asthma and Sinusitis	3	14	11
Category 4: Gynecological disorders	Uterine disorder, abortion, leucorrhea, menstrual cramps, prolapsed genital, painful urination and white discharge	7	50	35
Category 5: Gastrointestinal disorders	Cholera, constipation, intestinal worms, dyspepsia, dysentery, diarrhea,	11	94	47

	indigestion, piles, flatulence, stomachache and ulcer			
Category 6: Odontological disorders	Dental cavities, toothache and gum bleeding	3	19	11
Category 7: Musculoskeletal disorders	Arthritis, muscle ache, joint pain, muscle stiffness, leg pain and body ache	6	18	16
Category 8: Dermatological disorders	Burn, fungal skin disease, skin itching, leprosy, ring worm, skin disease, allergy and small pox	8	63	37
Category 9: ENT disorders	Eye disorder, nasal bleeding and ear ache	3	16	13
Category 10: General health disorders	Leech bite, liver enlargement, loss of vigour, malarial fever, pig bites, poison treatment, rabies, scorpion bite, snake bite, spider bite, sterility, swelling of liver, tuberculosis , vermicide, vitality, vomiting, poisonous bites, accidental bleeding , anesthesia, antidote for dog bite, bed bugs, bee's sting, blood coagulation, blood vomiting, boil, cold, cough, deworming, Diptheria, external bleeding, fatigue, fever, flu, gall bladder stone, giddiness, headache, Influenza, insect bite, intestinal worms, jaundice, kidney problems, kidney stone	42	148	61

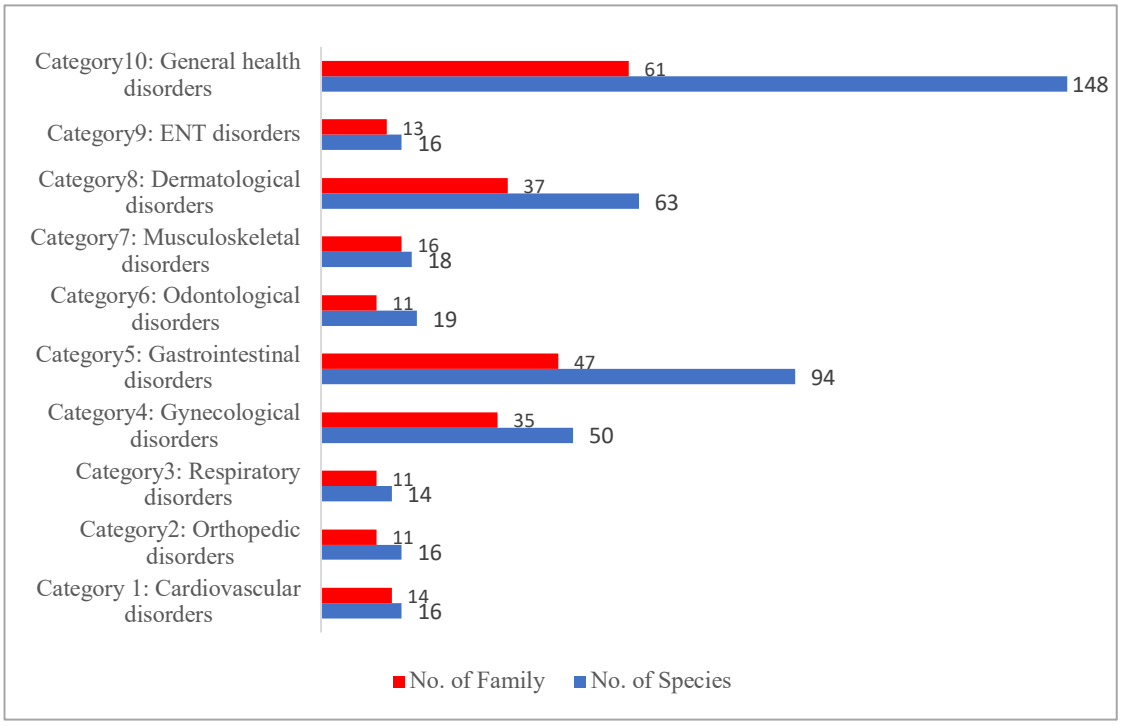

Figure 3. Number of family and species involved under each major traditional use disease category

Quantitative ethnobotanical analysis of reported species and families:

Family use value (UVf):

The plant families with the highest use reports were Zingberaceae (11 species with 30 use reports), Lamiaceae (16 species with 28 use reports), and Leguminaceae (14 species with 25 use reports). The statistical analysis shows the predominance of Cactaceae, Papaveraceae, Rutaceae and Zingberaceae with UVf of 5.00, 4.00, 2.83 and 2.73 respectively while Oxalidaceae, Melastomataceae and Chloranthaceae recorded the lowest UVf of 0.71, 0.50, and 0.50 respectively (Table 3).

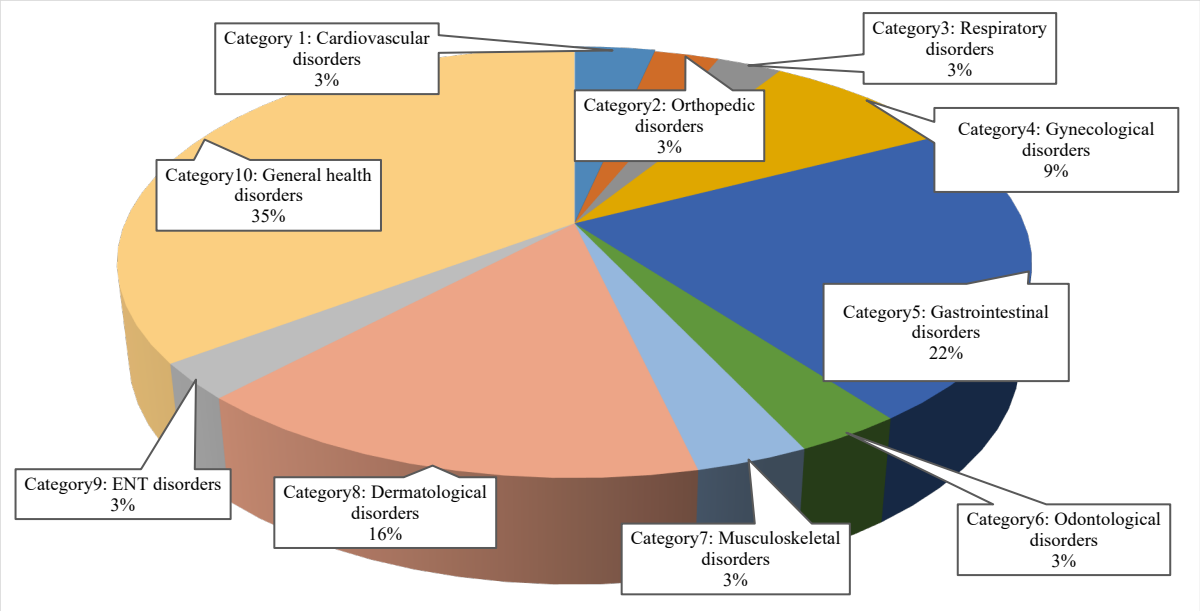

Figure 4. Percentage of ailments grouped under major traditional use disease category

Table 3. Family use values of the ethnomedicinal plants reported to be used by the indigenous tribal communities of the hill districts of Assam

Family Name	No. of species	Use reports/family	No. of informants/family	Family Use Value (UVf)
Cactaceae	2	5	1	5.00
Papaveraceae	1	4	1	4.00
Rutaceae	10	17	6	2.83
Zingberaceae	11	30	11	2.73
Acanthaceae	11	23	9	2.56
Lamiaceae	16	28	11	2.55
Plantaginaceae	5	10	4	2.50
Polygonaceae	6	15	6	2.50
Leguminaceae	14	25	11	2.27
Rubiaceae	5	15	7	2.14
Asteraceae	16	24	12	2.00
Amaryllidaceae	2	6	3	2.00
Apiaceae	3	12	6	2.00
Aristolochiaceae	3	6	3	2.00
Asclepiadaceae	1	2	1	2.00
Combretaceae	2	8	4	2.00
Dipterocarpaceae	2	2	1	2.00
Lecythidaceae	1	2	1	2.00
Nyctaginaceae	1	4	2	2.00
Simaroubaceae	2	2	1	2.00
Thymelaeaceae	2	4	2	2.00
Xanthorrhoeaceae	1	2	1	2.00
Apocynaceae	7	15	8	1.88
Poaceae	10	15	8	1.88
Meliaceae	3	9	5	1.80
Olacaceae	3	7	4	1.75
Solanaceae	14	17	10	1.70
Euphorbiaceae	6	10	6	1.67
Thelypterdaceae	2	5	3	1.67
Asparagaceae	2	8	5	1.60

Malvaceae	7	11	7	1.57
Caryophyllaceae	1	3	2	1.50
Hypoxidaceae	1	3	2	1.50
Lauraceae	3	3	2	1.50
Moraceae	3	3	2	1.50
Verbenaceae	2	3	2	1.50
Cucurbitaceae	9	10	7	1.43
Phyllanthaceae	4	7	5	1.40
Araliaceae	3	4	3	1.33
Clusiaceae	2	4	3	1.33
Crassulaceae	1	8	6	1.33
Acoraceae	1	5	4	1.25
Convolvulaceae	2	5	4	1.25
Araceae	10	11	9	1.22
Begoniaceae	5	12	10	1.20
Saururaceae	1	6	5	1.20
Amaranthaceae	6	7	6	1.17
Piperaceae	2	7	6	1.17
Anacardiaceae	3	4	4	1.00
Arecaceae	1	1	1	1.00
Basellaceae	1	1	1	1.00
Bromeliaceae	1	1	1	1.00
Campanulaceae	1	1	1	1.00
Capparaceae	2	2	2	1.00
Caricaceae	1	1	1	1.00
Colchicaceae	1	1	1	1.00
Commelinaceae	2	2	2	1.00
Costaceae	1	3	3	1.00
Cycadaceae	2	2	2	1.00
Dilleniaceae	1	1	1	1.00
Dioscoreaceae	2	3	3	1.00
Elaeagnaceae	1	1	1	1.00
Elaeocarpaceae	1	1	1	1.00
Lythraceae	1	1	1	1.00
Marantaceae	1	1	1	1.00
Menispermaceae	1	1	1	1.00
Musaceae	2	4	4	1.00
Myrtaceae	2	3	3	1.00
Nelumbonaceae	1	1	1	1.00
Onagraceae	1	1	1	1.00
Ophioglossaceae	1	1	1	1.00
Orchidaceae	1	1	1	1.00
Papilionaceae	1	1	1	1.00
Passifloraceae	1	1	1	1.00
Plumbaginaceae	2	2	2	1.00
Rhamnaceae	1	1	1	1.00
Rosaceae	2	2	2	1.00
Salicaceae	1	2	2	1.00
Sapindaceae	2	3	3	1.00
Vitaceae	3	4	4	1.00
Oxalidaceae	3	5	7	0.71
Chloranthaceae	1	1	2	0.50
Melastomataceae	1	3	6	0.50

Informant consensus factor (FIC)

Dermatological disorders emerged as the most frequently treated ailments among the tribal communities with a total of 63 plant species, 97 use reports and FIC 0.35, followed by General health (14 species, 219 use reports, and FIC 0.33) and Gastrointestinal disorders (94 species, 139 use reports and FIC 0.33). The cardiovascular disorders also has a higher number of use reports recorded 0.25 FIC. The lowest FIC was found in Odontological disorders with 0.05. The FIC of ENT, Gynecological, Orthopedic, Musculoskeletal and Respiratory disorders ranged between 0.06 to 0.19 (Table 4).

Table 4. Informant consensus factor (FIC) with number of species used and number of use reports of the ethnomedicinal plants reported against different ailment categories

Major Traditional Use Disease Category	Number of use reports	Number of Species	F_{ic}
Category 1: Cardiovascular disorders	21	16	0.25
Category 2: Orthopedic disorders	17	16	0.06
Category 3: Respiratory disorders	17	14	0.19
Category 4: Gynecological disorders	53	50	0.06
Category 5: Gastrointestinal disorders	139	94	0.33
Category 6: Odontological disorders	20	19	0.05
Category 7: Musculoskeletal disorders	21	18	0.15
Category 8: Dermatological disorders	97	63	0.35
Category 9: ENT disorders	17	16	0.06
Category 10: General health disorders	219	148	0.33

Fidelity level index (FL)

The level of fidelity FL is a crucial tool for determining which disease a particular species is most effective against. In this study, FL values were divided into three ranges: high (1.18 to 9.09), moderate (18.18 to 36.36), and low (45.45 to 63.64). According to the study's findings (Appendix I), there are 173 species of plants with low FL values, 89 species of plants with moderate FL values, and 15 species of plants with high FL values. In general, a FL of 100% for a certain plant denotes that the same treatment method was stated in all use reports for that plant (Srithi et al. 2009). According to this information, the informants in the region tended to rely more on a single plants species to treat a single illness than a variety of illnesses. 15 plant species that are frequently mentioned as having metabolic issues should be given greater thought, and research should be done to assess more information about their efficacy and veracity as stated and advised in other studies. Additionally, plants with low FL% should not be abandoned when they are diminishing in order to preserve them for future generations because doing so could raise the risk of knowledge gradually vanishing.

Diversity of medicinal plants and their quantitative evaluation

The review study has revealed a total of 273 species of ethnomedicinal plants belonging to 208 genera and 83 families after removing the repetitive plant species with the highest number of species belonging to the family Lamiaceae and Asteraceae. Based on the pseudo informants' citations for a particular plant under study, the use values (UVs) were generated to assess the relative significance of reported medicinal plants. These UVs had values ranging from 0.40 to 5.00 (Appendix I). The study's findings showing highest UV scores viz., *Morinda angustifolia* (UV 5.00), followed by *Argemone mexicana* (UV 4.00), *Erythrina variegata* (UV 3.00), *Thunbergia grandiflora* has been employed for a variety of tasks, such as treating headache, malarial fever, leprosy, jaundice, giddiness, urinary problems, dysentery, fever, toothache, stomach disease, indigestion, eye problem, skin disease and nose bleeding, antidote, sore eye, blood coagulant, sore throats, vomiting, diarrhea, asthma, intestinal worms, used against wounds, etc. The remaining species with the lowest UV ratings were utilized for health purposes such as dental cavities, cough, fever, inflammation, tuberculosis, constipation, liver disorder, Jaundice and stomach ache etc. These species exhibited the highest Use Value (UV) index, as they were cited by the largest number of authors (pseudo-informants). The UV index is directly correlated with the frequency at which pseudo-informants report the use of a specific plant (Chaachouay *et al.* 2019). The species use value (UV) relies on its pseudo-informant's knowledge, accessibility, usage, and the knowledge obtained from the informants in a specific area (Sukumaran *et al*., 2021). Medicinal plants with high UV, which are at risk of overharvesting, should be prioritized for phytochemical and pharmaceutical studies to identify their active compounds for drug extraction (Vitalini *et al*., 2014). Prioritizing the conservation of these species is essential even species with lower UV values remain important in treating various illnesses.

Moreover, calculating the FIC score helped reveal consistency in the ethnobotanical data from different users. A high FIC indicates strong agreement among informants regarding the selection of certain taxa (Dulal *et al*., 2022). However, lower FIC

values reflect informant divergence concerning the use of species for treating illnesses within the same general category, suggesting variation in species preference for similar health conditions (Rahman *et al*., 2022).

Ethnomedicinal studies in the Eastern Himalayan region of Assam reveal that diverse cultural groups continue to rely on medicinal plants to treat various human ailments. Our review further validates the pseudo-residents' consensus on the use of specific species in the area. Although multiple communities were studied, the high Informant Consensus Factor (FIC) value may be due to the plants being sourced from the same geographical region. Dermatological conditions, with the highest FIC value (0.35), were a key focus of our analysis, likely driven by the increasing prevalence of skin issues caused by hot, humid climates and overcrowding. Behavioral factors such as poor hygiene, unhealthy diets, and living conditions further exacerbate these problems (WHO, 2005). The data also show that pseudo-informants frequently relied on a limited number of species to address dermatological issues, raising the FIC value. There is a pressing need for the local population to develop their own remedies by investigating the medicinal properties of various plant species. The study found that *Clerodendrum infortunatum* was used to treat various conditions, including bee stings, insanity, deworming, dysentery, diabetes, hypertension, asthma, menstrual complications, and breathing difficulties (63.64% FL). High FL scores suggest plants with greater therapeutic potential, warranting further phytochemical and bioactive investigations (Bekele *et al*. 2022). The research also indicates that pseudo-informants in the Eastern Himalayas tend to rely on specific plant species for targeted ailments rather than multiple conditions. High FL values are often associated with metabolic disorders, but low FL species should not be neglected to preserve traditional knowledge for future generations (Chaachouay *et al*. 2019).

Preserving healing by shielding nature's healing blooms

The plant species diversity in the Eastern Himalayan region of Assam is rapidly declining due to the local population's heavy dependence on daily resource collection. Key drivers of biodiversity loss include overexploitation, pollution, habitat degradation, and the introduction of non-native species, all occurring at a faster rate than natural recovery (Gannon et al. 2017). Similar trends have been observed in ethnomedicinal vegetation threats in other regions, such as the Buska Mountain range in Ethiopia and Karbi Anglong in Assam (Bekele *et al*. 2022, Baidya *et al*. 2020).

The current study highlights overharvesting of medicinal plants, lack of awareness, inadequate documentation, and poor marketing channels as significant factors contributing to the region's plant conservation challenges. Species analysis revealed several critically endangered (CR), vulnerable (VU), and near-threatened (NT) species (Appendix I). To safeguard these species and preserve their therapeutic value, measures such as sustainable harvesting, awareness programs, and medicinal plant cultivation are crucial (Rahman *et al.* 2022). Financial support, seedling distribution, and the establishment of nurseries can further conservation efforts, along with documentation of traditional knowledge. Empowering local communities with sustainable harvesting techniques and propagation methods is essential for the long-term preservation of these valuable medicinal plants. Conservation strategies must prioritize sustainable practices to ensure the survival of this rich natural heritage for future generations.

Conclusion

The present review revealed the use of 273 species of ethnomedicinal plants belonging to 208 genera and 83 families that are widely used for the treatment of 10 broad categories of ailments against 91 specific types of ailments. The category of general health disorder has the highest number of species (148) with use reports (219) followed by FIC 0.33. This bespeaks about the vast wealth of knowledge possessed by the tribal communities and how they are still reliant on their use even in the face of the superior prowess of modern medicines which has revolutionized the healthcare system. Key species identified for phytochemical and pharmacological exploration include *Morinda angustifolia*, which ranks as the most utilized with a UV (Use Value) of 5.00, followed by *Argemone mexicana* (UV 4.00), reflecting their significant role in traditional medicine. Their widespread application suggests a strong potential for deeper investigation into their bioactive compounds and therapeutic properties. Additionally, species such as *Murraya paniculata*, *Ixora thwaitesii*, *Arundo donax*, *Erythrina variegata*, *Albizia lebbeck*, *Careya arborea*, *Opuntia dillenii*, and *Thunbergia grandiflora* also exhibited high UV scores, highlighting their extensive use and potential for phytochemical study. As their preferred usage may put their populations at risk from over harvesting, these species should also be given priority for conservation and the ethnomedicinal plants with the highest FIC would aid in the prioritization of a subsequent study. Species with lower UV scores, though less frequently used, may still hold valuable therapeutic properties, warranting investigation to uncover novel bioactive compounds or medicinal applications.

This study provides essential data for medicinal plant research by fostering collaboration between traditional healers and scientific institutions. Such partnerships can benefit the pharmaceutical and agro-food industries by integrating traditional

expertise with modern science. Documenting and promoting ethnomedicinal plant use, particularly among younger generations, is crucial for preserving this knowledge and their conservation is vital for sustainable use, boosting employment and income. This heritage should inspire future pharmacological studies to validate traditional remedies and advance global healthcare through natural drug development and highlighting its socioeconomic relevance.

In conclusion, this review study emphasizes the key medicinal plant species in the hilly districts of Assam while underscoring the need for further investigation and advocating the importance to document and conserve indigenous knowledge. The findings support integrating traditional practices into modern healthcare for sustainable use and cultural preservation.

Declarations

List of abbreviations: NCHAC- North Cachar Hills Autonomous Council**;** KAAC - Karbi Anglong Autonomous Council
Ethics approval and consent to participate: Not Applicable
Consent for publication: Not Applicable
Availability of data and materials: All data generated during this study are included in this article itself and its associated supplementary files.
Competing interests: We the authors have no conflict of interest to declare.
Funding: Not Applicable
Author contributions: The study was conceived and designed by KJB and WFM. KJB was responsible for data collection and initial manuscript composition, as well as interpreting and analyzing the data. WFM and NCL contributed to manuscript modifications and revisions. The final version was reviewed and approved by all authors.

Acknowledgements

We are deeply grateful to the anonymous reviewers for their invaluable insights, constructive feedback, and meticulous evaluation, all of which have significantly enriched the quality and depth of this manuscript. Institutional support and facilities utilized by the authors during preparation of this review are gratefully acknowledged.

Literature cited

Ahmad L, Riaz M, Jan H.A, Semotiuk A.J, Ahmad I, Khan I, Ali F, Rashid W, Bussmann R.W. 2021. An ethnobotanical survey of wild food plants used by the local communities of Kumrat Valley in District Upper Dir, Pakistan. Ethnobotany Research and Applications 22: 1-13.

Al-Nahain A, Jahan R, Rahmatullah M. 2014. *Zingiber officinale*: A Potential Plant against Rheumatoid Arthritis. Arthritis 2014:1-8. doi: 10.1155/2014/159089.

Aluede EE, Phillips J, Bleyer J, Jergesen HE, Coughlin R. 2012. Representation of Developing Countries in Orthopaedic Journals: A Survey of Four Influential Orthopaedic Journals. Clinical Orthopaedics and Related Research 470 (8): 2313-2318. doi: 10.1007/s11999-012-2377-5.

Amadi ES, Oyeka CA, Onyeagba RA, Ugbogu OC, Okoli I. 2007. Antimicrobial screening of *Breynia nivosus* and *Ageratum conyzoides* against dental caries organisms. Journal of Biological Sciences 7(2): 354-348. doi: 10.3923/jbs.2007.354.358.

Aggarwal B, Prasad S, Reuter S, Kannappan R, R Yadav V, Park B, Hye Kim J, C Gupta S, Phromnoi K, Sundaram C, Prasad S. 2011. Identification of novel anti-inflammatory agents from Ayurvedic medicine for prevention of chronic diseases: "reverse pharmacology" and "bedside to bench" approach. Current Drug Targets 12(11):1595-653. doi: 10.2174/138945011798109464.

Baidya S, Thakur B, Devi A. 2020. Ethnomedicinal plants of the sacred groves and their uses by Karbi tribe in Karbi Anglong district of Assam, Northeast India. Indian Journal of Traditional Knowledge 19(2): 277-87. doi: 10.56042/ijtk.v19i2.35375.

Barman TK, Kalita P, Pal TK. 2013. Comparative evaluation of total flavonoid content and antioxidant activity of methanolic root extract of *Clerodendrum infortunatum* and methanolic whole plant extract of biophytumsensitivum. International Journal of Pharmaceutical Sciences Review and Research 22:626-6.

Basumatary N, Teron R, Saikia M. 2014. Ethnomedicinal practices of the Bodo-Kachari tribe of Karbi Anglong district of Assam. International Journal of Life Sciences Biotechnology and Pharma Research 3(1):161-7.

Beaulah P. 2018. Prevalence of gynaecological problems and their effect on working women. Indian Journal of Continuing Nursing Education 19 (1):103-108.

Bekele M, Woldeyes F, Lulekal E, Bekele T, Demissew S. 2022. Ethnobotanical investigation of medicinal plants in Buska Mountain range, Hamar district, Southwestern Ethiopia. Journal of Ethnobiology and Ethnomedicine 18(1):1-26.

Bhattacharjee S, 2018. Natural Resources and Indigenous Knowledge of Healthcare System among the Karbis of Assam, in: Sengupta, S.S. (Ed.), Indigenous Health Practices among the People of North East India. Kalpaz Publications, Delhi 77.

Bhutkar MA, Bhise SB. 2012. In vitro assay of alpha amylase inhibitory activity of some indigenous plants. International Journal of Chemical Sciences 10(1): 457-462. doi: 10.31031/MAPP.2018.01.000518

Black CJ, Drossman DA, Talley NJ, Ruddy J, Ford AC. 2020. Functional gastrointestinal disorders: advances in understanding and management. The Lancet 396 (10263): 1664-1674. doi: 10.1016/S0140-6736(20)32115-2.

Brahmachari G, Gorai D, Roy R. 2013. *Argemone mexicana*: Chemical and pharmacological aspects. Revista Brasileira de Farmacognosia 23(3): 559-575. doi: 10.1590/s0102-695x2013005000021.

Brahmkshatriya H, Shah K, Ananthkumar G, Brahmkshatriya M. 2015. Clinical evaluation of *Cissus quadrangularis* as osteogenic agent in maxillofacial fracture: A pilot study. AYU, An International Quarterly Journal of Research in Ayurveda 36(2):169. doi: 10.4103/0974-8520.175542.

Bushi D, Bam K, Mahato R, Nimasow G, Nimasow OD, Tag H. 2021. Ethnomedicinal plants used by the indigenous tribal communities of Arunachal Pradesh, India: a review. Ethnobotany Research and Applications 22. doi: 10.32859/era.22.34.1-40.

Census of India. 2011. Assam- District Census Handbook. Directorate of Census Operations, Assam. Government of India.

Chaachouay N, Benkhnigue O, Fadli M, El Ibaoui H, Zidane L. 2019. Ethnobotanical and ethnopharmacological studies of medicinal and aromatic plants used in the treatment of metabolic diseases in the Moroccan Rif. Heliyon. 5(10).

Chattopadhyay D. ed. 2010. Ethnomedicine: a source of complementary therapeutics. Kerala (India): Research Signpost.

Choudhary AA, Sushanta KC, Khan AA. 1982. Antifertility activity of Plumbagozeylanica Linn. root. The Indian Journal of Medical Research 76:99-101.

Court-Brown CM, Caesar B. 2006. Epidemiology of adult fractures: a review. Injury 37(8):691-697. doi: 10.1016/j.injury.2006.04.130.

Da Costa BR, Vieira ER, 2010. Risk factors for work-related musculoskeletal disorders: a systematic review of recent longitudinal studies. American Journal of Industrial Medicine 53(3):285-323.n/a-n/a. doi: 10.1002/ajim.20750.

Dash B, Sharma R, 2008. Charaka Samhita, Chaukhamba Sanskrit Series Office, Varanasi.

Deka K, Nath N, 2015. Traditional hepatoprotective herbal medicine of Bongaigaon district, Assam (NE India). American Journal of Ethnomedicine. 2(5):2348-9502.Dhinagari J. 2011.

Effectiveness of Aloevera Juice upon Leucorrhoea among Women at Selected Villages, Chennai (Doctoral dissertation, Apollo College of Nursing, Chennai).

Dye BA. 2017. The global burden of oral disease: research and public health significance. Journal of Dental Research 96 (4):361-363. doi: 10.1177/0022034517693567.

Dulal K., Chaudhary S, Uprety Y, Shrestha N, Shakya S, Munankarmi N. 2022. Ethnomedicinal plants used by the local people of Changunarayan Municipality, Bhaktapur, Nepal. Ethnobotany Research and Applications 23:1-27.

Farnsworth NR, Akerele O, Bingel AS, Soejarto DD, Guo Z. 1985. Medicinal plants in therapy. Bulletin of the world health organization 63(6):965.

Forest Survey of India. 2021. India State Forest Report. Forest Survey of India, Dehradun, India.

Foster GM, Anderson BG. 1978. Medical anthropology. John Wiley and Sons, Inc. 605 3rd Avenue, New York, NY 10016, USA.

Friedman J, Yaniv Z, Dafni A, Palewitch D. 1986. A preliminary classification of the healing potential of medicinal plants, based on a rational analysis of an ethnopharmacological field survey among Bedouins in the Negev Desert, Israel. Journal of Ethnopharmacology 16(2-3):275-287.

Gannon P, Seyoum-Edjigu E, Cooper D, Sandwith T, Ferreira de Souza Dias B, Pașca Palmer C, Lang B, Ervin J, Gidda S. 2017. Status and prospects for achieving Aichi Biodiversity Target 11: implications of national commitments and priority actions. Parks 23(2): 13-26.

Gilani AH, Bashir S, Janbaz KH, Shah AJ. 2005. Presence of cholinergic and calcium channel blocking activities explains the traditional use of *Hibiscus rosa-sinensis* in constipation and diarrhoea. Journal of Ethnopharmacology 102(2):289-294. doi: 10.1016/j.jep.2005.07.023.

Gulzar H, Hazrat A, Gulzar K, Ali F, Khan N, Nisar M, Khan I, Ullah A. 2019. Medicinal plants and their traditional uses in Thana village, district Malakand, Khyber Pakhtunkhwa, Pakistan. International Journal of Endorsing Health Science Research 7(1): 11-21.

Gupta AK, Sharma M, Chadha A, Dixit R. 2008. Reviews on Indian medicinal plants. Reviews on Indian Medicinal Plants 7 (Cl-Co).

Hay RJ, Johns NE, Williams HC, Bolliger IW, Dellavalle RP, Margolis DJ, Marks R, Naldi L, Weinstock MA, Wulf SK, Michaud C. 2014. The global burden of skin disease in 2010: an analysis of the prevalence and impact of skin conditions. Journal of Investigative Dermatology 134(6): 1527-1534.

Haq SM, Khoja AA, Lone FA, Waheed M, Bussmann RW, Casini R, Mahmoud, EA, Elansary HO, 2023. Keeping healthy in your skin—plants and fungi used by indigenous Himalayan communities to treat dermatological ailments. Plants 12(7): 1575.

Haq SM, Waheed M, Khoja AA, Amjad MS, Bussmann RW, Ali K, 2023. A cross-cultural study of high-altitude botanical resources among diverse ethnic groups in Kashmir Himalaya, India. Journal of Ethnobiology and Ethnomedicine 19(1):12.

Heinrich M, Ankli A, Frei B, Weimann C, Sticher O. 1998. Medicinal plants in Mexico: Healers' consensus and cultural importance. Social Science and Medicine 47(11):1859-1871.

Hughes C. 1968. International Encyclopedia of the Social Sciences. New York: Crowell Collier and Macmillan.

Iwu MM. 2002. Introduction: Therapeutic agents from ethnomedicine. InAdvances in phytomedicine. (1):1-22.

Jadeja RN, Thounaojam MC, Ramani UV, Devkar RV, Ramachandran AV. 2011. Anti-obesity potential of *Clerodendron glandulosum* Coleb leaf aqueous extract. Journal of Ethnopharmacology 135(2):338-343.

Kala CP. 2005. Ethnomedicinal botany of the Apatani in the Eastern Himalayan region of India. Journal of Ethnobiology and Ethnomedicine 1:1-8.

Karimkhani C, Dellavalle RP, Coffeng LE, Flohr C, Hay RJ, Langan SM, Nsoesie EO, Ferrari AJ, Erskine HE, Silverberg JI, Vos T. 2017. Global skin disease morbidity and mortality: an update from the global burden of disease study 2013. JAMA Dermatology 153 (5):406-412.

Kishve SP, Kumar N, Kishve PS, Aarif SM, Kalakoti P. 2010. Ear, Nose and Throat disorders in paediatric patients at a rural hospital in India. Australasian Medical Journal 3(12).

Klauss V, Adala HS. 1994. Traditional herbal eye medicine in Kenya. In World health forum 15 (2): 138-143.

Lalramnghinglova H, Jha L. 2000. Ethnobotany: A Review, in: Maheshwari, J.K. (Eds.), Ethnobotany and Medicinal Plants of Indian Subcontinent. Scientific Publishers, Jodhpur, India 1-27.

Luan HD, Hai NT, Xanh PT, Giang HT, Van Thuc P, Hong NM, Khue PM. 2018. Musculoskeletal disorders: prevalence and associated factors among district hospital nurses in Haiphong, Vietnam. BioMed Research International 2018. doi: 10.1155/2018/3162564.

Maikhuri RK, Gangwar AK. 1993. Ethnobiological notes on the Khasi and Garo tribes of Meghalaya, Northeast India. Economic Botany 47:345-357.

Majumder R, Tiwari KC, Bhattacharjee S, Nair AR. 1978. Some folklore medicine from Assam and Meghalaya. Quarterly Journal of Crude Drug Research 16(4):185-189.

Mishra D, Singh RK, Srivastava RK, Dubey SR. 2013. Ethnomedicinal plants used to cure the gynaecological disorders by ethnic populace of Sitapur district, Uttar Pradesh, India. Medicinal Plants-International Journal of Phytomedicines and Related Industries 5(4): 238-245.

Nason E. 2007. An overview of cardiovascular disease and research. Santa Monica, CA.

Nath M, Choudhury MD. 2009. Ethno-medico-botanical aspects of Hmar tribe of Cachar district, Assam (Part I). Indian Journal of Traditional Knowledge 9(4): 760-4.

Niazi P, Monib AW. 2024. The role of plants in traditional and modern medicine. Journal of Pharmacognosy and Phytochemistry 13(2): 643-647.

Patel DK. 2017. *Paederia foetida* Linn.: A Potential Climbing Medicinal Herb in Central India. International Journal of Environmental Sciences and Natural Resources 6(5): 118-124.

Patel R, Mahobia N, Upwar N, Waseem N, Talaviya H, Patel Z. 2010. Analgesic and antipyretic activities of Momordicacharantia Linn. fruits. Journal of Advanced Pharmaceutical Technology and Research 1(4): 415. doi: 10.4103/0110-5558.76441.

Patil BS, Raut ID, Bhutkar MA, Mohite SK. 2015. Evaluation of anthelmintic activity of leaves of Tragiainvolucrata Linn. Journal of Pharmacognosy and Phytochemistry 4(1):155-159.

Phillips O, Gentry AH. 1993. The useful plants of Tambopata, Peru: I. Statistical hypotheses tests with a new quantitative technique. Economic Botany 47:15-32. doi: 10.1007/bf02862203.

Phumthum M, Srithi K, Inta A, Junsongduang A, Tangjitman K, Pongamornkul W, Trisonthi C, Balslev H. 2018. Ethnomedicinal plant diversity in Thailand. Journal of Ethnopharmacology 214:90-98. doi: 10.1016/j.jep.2017.12.003.

Polinder S, Haagsma J, Panneman M, Scholten A, Brugmans M, Van Beeck E. 2016. The economic burden of injury: Health care and productivity costs of injuries in the Netherlands. Accident Analysis and Prevention 93:92-100. doi: 10.1016/j.aap.2016.04.003.

Polito L, Bortolotti M, Maiello S, Battelli M, Bolognesi A. 2016 (a). Plants Producing Ribosome-Inactivating Proteins in Traditional Medicine. Molecules 21:1560. doi: 10.3390/molecules21111560.

Prakash JW, Raja RD, Anderson NA, Williams C, Regini GS, Bensar K, Rajeev R, Kiruba S, Jeeva S, Das SS. 2008. Ethnomedicinal plants used by Kani tribes of Agasthiyarmalai biosphere reserve, southern Western Ghats. Indian Journal of Traditional Knowledge 7(3): 410-413.

Rengma MS, Tisso SI, Timung L. 2018. Ethnomedicinal Practices among the Karbis of Assam. Indigenous Health Practices among the People of North East India, New Delhi, India: Kalpaz Publications 5(1): 67-76.

Rout J, Sajem AL, Nath M. 2009. Medicinal plants of North Cachar Hills district of Assam used by the Dimasa tribe. Indian Journal of Traditional Knowledge 11(3): 520-527.

Saikia AJ, Parkash V. 2016. Traditional Remedies for Ailments Prevalent Amongst the Thengal-Kacharis of Lakhimpur District, Assam, India. Notulae Scientia Biologicae 8:401-407. doi: 10.15835/nsb849847.

Sajem AL, Gosai K. 2006. Traditional use of medicinal plants by the Jaintia tribes in North Cachar Hills district of Assam, northeast India. Journal of Ethnobiology and Ethnomedicine 2(1):1-7.

Sajem AL, Gosai K. 2010. Ethnobotanical investigations among the Lushai tribes in North Cachar hills district of Assam, northeast India. Indian Journal of Traditional Knowledge 9(1):108-113.

Sengupta S. 2017. Indigenous Health Practices among the People of North East India. 1st ed. Delhi, India: Kalpaz Publications.

Sen S, Chakraborty R. 2015. Toward the integration and advancement of herbal medicine: a focus on traditional Indian medicine. Botanics: Targets and Therapy 33-44.

Seo JW, Cho SC, Park SJ, Lee EJ, Lee JH, Han SS, Pyo BS, Park DH, Kim BH. 2013. 1'-Acetoxychavicol acetate isolated from *Alpinia galanga* ameliorates ovalbumin-induced asthma in mice. PloS One 8(2):e56447. doi: 10.1371/journal.pone.0056447.

Shukla, SD, Vanka KS, Chavelier A, Shastri MD, Tambuwala MM, Bakshi HA, Pabreja K, Mahmood MQ, O'toole RF. 2020. Chronic respiratory diseases: An introduction and need for novel drug delivery approaches, in: Dua K, Hansbro PM, Wadhwa R, Haghi M, Pont LG, Williams KA.(Eds.),Targeting chronic inflammatory lung diseases using advanced drug delivery systems. Academic Press 1-31. doi: 10.1016/B978-0-12-820658-4.00001-7.

Singh A. 2022. A Review of various aspects of the Ethnopharmacological, Phytochemical, Pharmacognostical, and Clinical significance of selected Medicinal plants. Asian Journal of Pharmacy and Technology 12(4):349-360.

Soni RK, Irchhaiya R, Dixit V, Alok S. 2013. *Paederia foetida* Linn: Phytochemistry, pharmacological and traditional uses. International Journal of Pharmaceutical Sciences and Research 4(12): 4525.

Sonowal, C.J.S. 2018. Revisiting the Domain of Ethnomedicine: Some Issues and Methods, in: Sengupta, S.S. (Eds.), Indigenous Health Practices among the People of North East India. Kalpaz Publications., Delhi 29.

Srithi K, Balslev H, Wangpakapattanawong P, Srisanga P, Trisonthi C. 2009. Medicinal plant knowledge and its erosion among the Mien (Yao) in northern Thailand. Journal of Ethnopharmacology 123(2):335-342.

Sukumaran S, Sujin RM, Geetha VS, Jeeva S. 2021. Ethnobotanical study of medicinal plants used by the Kani tribes of Pechiparai Hills, Western Ghats, India. Acta Ecologica Sinica 41(5):365-376

Tamang S, Singh A, Bussmann RW, Shukla V, Nautiyal MC. 2023. Ethno-medicinal plants of tribal people: A case study in Pakyong subdivision of East Sikkim, India. Acta Ecologica Sinica 43(1):34-46.

Tamuli P, Saikia R. 2004. Ethno-medico-botany of the Zeme tribe of North Cachar Hills district of Assam. Indian Journal of Traditional Knowledge 3(4): 430-436. http://nopr.niscpr.res.in/handle/123456789/9371.

Tardío J, Pardo-de-Santayana M. 2008. Cultural importance indices: a comparative analysis based on the useful wild plants of Southern Cantabria (Northern Spain). Economic Botany 62:24-39.

Terangpi R, Basumatary T K, Teron R. 2014. Ethnomedicinal plants of the Karbi ethnic group in Assam state (India) for management of gynaecological disorders. International Journal of Pharmacy and Life Sciences 5(10): 3910-3916.

Teron R, Borthakur SK. 2013. Folklore claims of some medicinal plants as antidote against poisons among the Karbis of Assam, India. Pleione 7(2):346-356.

Teron R. 2019. 2018. Cross-Cultural ethnobotanical exploration of diversity and utilization of medicinal plants in Karbi Anglong district, Assam, Northeast India. NeBIO 10(1): 35-46.

Tugume P, Kakudidi E.K, Buyinza M, Namaalwa J, Kamatenesi M, Mucunguzi P, Kalema J. 2016. Ethnobotanical survey of medicinal plant species used by communities around Mabira Central Forest Reserve, Uganda. Journal of Ethnobiology and Ethnomedicine 12: 1-28.

Unissa R, Swathi C, Priyanka B, Redddy DM, Niharika K. 2018. Evaluation of in Vitro Antimicrobial Activity of Flower Extract of *Tabernaemontana divaricata* against Oral Pathogens. Haya: The Saudi Journal of Life Sciences 3(3): 255-258.

Vijayalakshmi K, Udayakumar R. 2018. Antifungal Activity of M. pudica L. against Selected Human Pathogens. International Journal of Advanced Scientific and Management 3(10): 79-87.

Vitalini S, Iriti M, Puricelli C, Ciuchi D, Segale A, Fico G. 2013. Traditional knowledge on medicinal and food plants used in Val San Giacomo (Sondrio, Italy) An alpine ethnobotanical study. Journal of Ethnopharmacology 145(2): 517-529.

WFO Plant List. http://www. wfoplantlist.org (accessed 27 July 23).

World Health Organization. 2005. Epidemiology and management of common skin diseases in children in developing countries. World Health Organization.

World Health Organization. 2008. The global burden of disease: 2004 update. World Health Organization.

Yernazarova KB, Abdrassulova ZT, Tuleuhanov ST, Tussupbekova GA, Salybekova NN, Isayev G, Basim H. 2019. Biological features of the medicinal plant Plantago major L. International Journal of Biology and Chemistry 12(1): 86-93.

Zagari A. 1992. Medicinal plants Publications No. 1810 (4), vol. 4. Tehran University, Tehran, Iran.

Appendix 1. List of ethnomedicinal plants used by the indigenous tribal communities of Dima Hasao and Karbi Anglong districts of Assam.

Botanical Name	Family	Habit/ IUCN Status*	Parts used	Diseases cured	Tribe(s)	FL	UV	Reference
Andrographis paniculata (Burm.f.) Nees	Acanthaceae	Herb/ NE	Leaves	Stomachache, fever and malaria	Karbi and Bodo Kachari	18.18	1.50	Teron 2019, Basumatary *et al.* 2014
Barleria cristata L.	Acanthaceae	Herb/ NE	Aerial part	Skin infections	Jaintia	9.09	1.00	Sajem & Gosai 2006
Eranthemum suffruticosum Roxb.	Acanthaceae	Shrub/ NE	Leaf	Skin infection	Pnar	9.09	1.00	Teron 2019
Justicia adhatoda L.	Acanthaceae	Shrub/ LC	Flower and leaf	Nose bleeding, dysentery, blood vomiting, malaria, diphtheria, asthma, cough, cold, uterine problems and bronchitis	Jaintia, Zeme, Lushai and Karbi	36.36	2.50	Sajem & Gosai 2006, Tamuli & Saikia 2004, Sajem & Gosai 2010, Bhattacharjee 2018
Justicia comata (L.) Lam.	Acanthaceae	Herb/ NE	Leaf	Ringworm	Karbi	9.09	1.00	Teron 2019
Justicia gendarussa Burm.f.	Acanthaceae	Shrub/ NE	Root	Antidote, indigestion, dysentery and fever	Karbi and Bodo Kachari	27.27	1.33	Teron 2019, Teron & Borthakur 2013, Basumatary *et al.* 2014
Phlogacanthus thyrsiformis (Hardw.) Mabb.	Acanthaceae	Shrub/ NE	Flower	Stomach pain	Karbi, Pnar, Tiwa	9.09	1.00	Teron 2019
Phlogacanthus curviflorus (Wall.) Nees	Acanthaceae	Shrub/ NE	Root and leaf	Stomach ulcer and uterus contraction	Karbi	9.09	2.00	Baidya *et al.* 2020
Rungia pectinata (L.) Nees	Acanthaceae	Herb/ NE	Leaf	Cuts and wounds	Dimasa	9.09	2.00	Rout *et al.* 2012
Strobilanthes cusia (Nees) Kuntze	Acanthaceae	Herb/ NE	Leaf	Antidote for dog bite	Karbi	9.09	1.00	Teron 2019
Thunbergia grandiflora (Roxb. ex Rottl.) Roxb.	Acanthaceae	Tree/ NE	Leaf and stem	Antidote, sore eye, blood coagulant	Karbi, Pnar	9.09	**3.00**	Teron 2019
Acorus calamus L.	Acoraceae	Herb/ LC	Rhizome and tuber	Constipation, stomachache, labor	Karbi, Pnar and Tiwa	36.36	1.25	Teron 2019, Terangpi *et al.* 2014, Rengma *et al.* 2018, Teron & Borthakur 2013

				pain, gastritis and poison treatment				
Achyranthes aspera L.	Amaranthaceae	Herb/ NE	Twigs and leaf	Labor complicacy, boils and skin disease	Karbi, Jaintia and Lushai	27.27	1.00	Terangpi *et al.* 2014, Sajem & Gosai 2006, Sajem & Gosai 2010
Alternanthera sessilis (L.) R.Br. ex DC.	Amaranthaceae	Herb/ LC	Leaf	Skin disease	Karbi	9.09	1.00	Bhattacharjee 2018
Amaranthus spinosus L.	Amaranthaceae	Herb/ NE	Root	Poisonous bites and mensuration cramp	Karbi	9.09	2.00	Baidya *et al.*2020
Beta vulgaris L.	Amaranthaceae	Herb/ CE	Shoot	Jaundice	Karbi	9.09	1.00	Bhattacharjee 2018
Celosia argentea L.	Amaranthaceae	Herb/ NE	Leaf	Skin whitening disease	Dimasa	9.09	1.00	Rout *et al.* 2012
Chenopodium album L.	Amaranthaceae	Herb/ NE	Leaf	Dysentery	Karbi	9.09	1.00	Bhattacharjee 2018
Allium chinense G.Don	Amaryllidaceae	Herb/ LC	Bulb	Constipation	Dimasa	9.09	1.00	Rout *et al.* 2012
Allium sativum L.	Amaryllidaceae	Herb/ NE	Leaf	Snake bite, spider bite, cuts, wounds and poison treatment	Karbi, Pnar and Tiwa	18.18	2.50	Teron 2019, Teron & Borthakur 2013
Brucea javanica (L.) Merr.	Anacardiaceae	Tree/ LC	Fruit	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur 2013
Mangifera indica L.	Anacardiaceae	Tree/ DD	Fruit	Constipation and dysentery	Karbi	18.18	1.00	Baidya *et al.* 2020, Teron 2019
Rhus chinensis Mill.	Anacardiaceae	Tree/ NE	Fruit	Constipation, dysentery and stomach ache	Pnar and Dimasa	18.18	1.50	Teron 2019, Rout *et al.* 2012
Centella asiatica (L.) Urb.	Apiaceae	Herb/ LC	Whole plant and leaf	Leprosy, tuberculosis, asthma, constipation, dysentery, stomach ache, eye injury, gastritis, cuts and wounds	Lushai, Karbi, Tiwa, Zeme, Jaintia, Bodo Kachari and Karbi	45.45	2.00	Sajem & Gosai 2010, Teron 2019, Tamuli & Saikia 2004, Sajem & Gosai 2006, Basumatary *et al.* 2014
Eryngium foetidum L.	Apiaceae	Herb/ NE	Leaf	Food allergy	Dimasa	9.09	1.00	Rout *et al.*2012

Coriandrum sativum L.	Apiaceae	Herb/ NE	Stem and fruit	Jaundice and stomach ache	Karbi	27.27	0.67	Teron 2019, Sajem & Gosai 2006, Sajem & Gosai 2010
Alstonia scholaris (L.) R. Br.	Apocynaceae	Tree/ LC	Bark and leaf	Asthma, malaria and stomachache	Lushai, Zeme and Jaintia	27.27	1.00	Sajem & Gosai 2010, Tamuli & Saikia 2004, Sajem & Gosai 2006
Calotropis gigantea (L.) Dryand.	Apocynaceae	Shrub/ NE	Leaf and latex	Swelling of liver	Bodo Kachari and Karbi	18.18	0.50	Basumatary *et al.*2014, Rengma *et al.* 2018
Catharanthus roseus (L.) G.Don	Apocynaceae	Herb/ NE	Leaf	Diabetes, high blood pressure, sinusitis and nasal bleeding	Zeme, Jaintia and Lushai	27.27	1.33	Tamuli & Saikia 2004, Sajem & Gosai 2006, Sajem & Gosai 2010
Marsdenia tinctoria R. Br.	Apocynaceae	Shrub/ NE	Leaf	Dog bite and poison treatment	Karbi	18.18	1.00	Teron 2019, Teron & Borthakur 2013
Rauvolfia serpentina (L.) Benth. ex Kurz	Apocynaceae	Herb/ NE	Root and leaf	Fever, cough, stomachache, jaundice and poision treatment	Karbi, Pnar, Tiwa and Dimasa	27.27	1.67	Teron 2019, Rengma *et al.* 2018, Rout *et al.* 2012
Tabernaemontana divaricata (L.) R.Br. ex Roem. &Schult.	Apocynaceae	Shrub/ LC	Latex	Dental cavities	Lushai and Jaintia	18.18	0.50	Sajem & Gosai 2008, Sajem & Gosai 2006
Holarrhena pubescens Wall. ex G.Don	Apocynaceae	Shrub/ LC	Bark and latex	Dysentery	Karbi	9.09	1.00	Teron 2019
Alocasia fornicata (Roxb.) Schott	Araceae	Herb/ LC	Corm	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur 2013
Alocasia macrorrhizos (L.) G.Don	Araceae	Herb/ NE	Root	Joint pain	Bodo Kachari	9.09	1.00	Basumatary *et al.* 2014
Arum dioscoridis Sm.	Araceae	Herb/ NE	Stem	Boil	Lushai and Jaintia	18.18	0.50	Sajem & Gosai 2010, Sajem & Gosai 2006
Colocasia antiquorum Schott	Araceae	Herb/ NE	Stem	Insect bite	Dimasa	9.09	1.00	Rout *et al.* 2012
Colocasia esculenta (L.)Schott	Araceae	Herb/ LC	Tuber, Petiole	Blood coagulation, cuts and wound	Karbi	18.18	1.50	Baidya *et al.*2020, Teron 2019
Homalomena aromatica (Spreng.) Schott	Araceae	Herb/ NE	Rhizome	Influenza, joint pain and blood purifier	Tiwa and Karbi	36.36	0.75	Teron 2019, Bhattacharjee 2018, Baidya *et al.* 2020, Rengma *et al.* 2018
Lasia spinosa (L.) Thwaites	Araceae	Herb/ LC	Root and rhizome	Jaundice	Pnar	9.09	1.00	Teron 2019

Amorphophallus bulbifer (Roxb.) Blume	Araceae	Herb/ NE	Stem and tuber	Cuts, wounds and piles	Karbi	18.18	1.50	Rengma *et al.* 2018, Bhattacharjee 2018
Arisaema tortuosum (Wall.) Schott	Araceae	Herb/ NE	Tuber	Piles	Karbi	9.09	1.00	Bhattacharjee 2018
Hydrocotyle javanica Thunb.	Araliaceae	Herb/ LC	Whole plant	Jaundice and bone fracture	Zeme	9.09	2.00	Tamuli & Saikia 2004
Hydrocotyle sibthorpioides Lam.	Araliaceae	Herb/ LC	Leaf	Dysentery	Karbi	9.09	1.00	Rengma *et al.* 2018
Trevesia palmata (Roxb. ex Lindl.) Vis.	Araliaceae	Tree/ LC	Flower	Piles	Dimasa	9.09	1.00	Rout *et al.*2012
Calamus rotang L.	Arecaceae	Herb/ NE	Shoot	Vitality	Karbi	9.09	1.00	Bhattacharjee 2018
Aristolochia indica L.	Aristolochiaceae	Creeper/ NE	Root	Stomachache and poison treatment	Karbi and Tiwa	18.18	1.00	Teron 2019, Teron & Borthakur 2013
Aristolochia platanifolia (Klotzsch) Duch.	Aristolochiaceae	Climber/ NE	Root	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur 2013
Aristolochia saccata Wall.	Aristolochiaceae	Climber/ NE	Root and leaf	Stomach pain, body pain, jaundice, dysentery, constipation and poison treatment	Bodo Kachari, Karbi, Pnar and Tiwa	27.27	2.00	Basumatary *et al.*, 2014, Teron 2019, Teron & Borthakur2013
Hoya globulosa Hook.f.	Asclepiadaceae	Climber/ NE	Leaf	Cut and wound	Karbi	9.09	2.00	Teron 2019
Asparagus racemosus Willd.	Asparagaceae	Climber/ NE	Leaf, root and whole plant	Stomach disorder, jaundice, stomach ache, urinary disorder, rheumatic pain,nerve disorder and dysentery	Lushai, Jaintia, Zeme and Bodo Kachari	36.36	1.75	Sajem & Gosai 2010, Basumatary *et al.* 2014, Sajem & Gosai 2006, Tamuli & Saikia 2004
Dracaena angustifolia (Medik.) Roxb.	Asparagaceae	Shrub/ NE	Leaf	Cut and wound	Karbi	9.09	2.00	Teron 2019
Inula cappa (D.Don) DC.	Asteraceae	Herb/ NE	Leaf	Cure vaginal wounds after delivery	Karbi	9.09	1.00	Terangpi *et al.*2014
Ageratum conyzoides (L.) L.	Asteraceae	Herb/ NE	Leaf	Bleeding, cuts, wound and blood coagulant	Dimasa,Karbi, Pnar, Tiwa, Jaintia and Lushai	45.45	0.80	Rout *et al.*2012, Teron 2019, Sajem & Gosai 2006, Baidya *et al.*2020, Sajem & Gosai 2010

Chromolaena odorata (L.) R.M.King&H.Rob.	Asteraceae	Herb/ NE	Leaf and twig	Constipation, cure vaginal wounds after delivery, cuts and wounds	Dimasa, Pnar and Karbi	27.27	1.33	Rout *et al.* 2012, Teron 2019, Terangpi *et al.* 2014
Crassocephalum crepidioides (Benth.) S.Moore	Asteraceae	Herb/ NE	Leaf	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur 2013
Eupatorium cannabinum L.	Asteraceae	Herb/ NE	Leaf and stem	Jaundice, scurvy, ulcers and skin infection	Zeme and Pnar	18.18	2.00	Tamuli & Saikia 2004, Teron 2019
Eupatorium chinense L.	Asteraceae	Herb/ NE	Leaf	Fungal skin disease	Zeme	9.09	1.00	Tamuli & Saikia 2004
Mikania micrantha Kunth.	Asteraceae	Climber/ NE	Leaf	Blood coagulant, diarrhoea, dyspepsia, insect bite and scorpion bite	Lushai, Jaintia, Zeme,Karbi and Pnar	45.45	1.00	Sajem & Gosai 2010, Sajem & Gosai 2006, Tamuli & Saikia 2004, Baidya *et al.* 2020, Teron 2019
Mikania scandens (L.) Willd.	Asteraceae	Herb/ NE	Shoot	Cure vaginal wounds after delivery	Karbi	9.09	1.00	Terangpi *et al.*, 2014
Spilanthes acmella (L.) L.	Asteraceae	Herb/ NE	Flower and leaf	Anesthesia and toothache	Karbi	9.09	2.00	Baidya *et al.*2020
Synedrella nodiflora (L.) Gaertn.	Asteraceae	Herb/ NE	Stem and leaf	Body ache	Bodo Kachari	9.09	1.00	Basumatary *et al.* 2014
Vernonia volkameriifolia DC.	Asteraceae	Tree/ LC	Leaf	Backache	Karbi	9.09	1.00	Rengma *et al.* 2018
Xanthium strumarium L.	Asteraceae	Herb/ NE	Shoot and Leaf	High blood pressure, poison treatment and dysentery	Karbi	18.18	1.50	Bhattacharjee 2018, Teron & Borthakur 2013
Acmella paniculata (Wall. ex DC.) R.K.Jansen	Asteraceae	Herb/ LC	Head, leaf, flower and leaf	Toothache and stomach ache	Pnar,Karbi, Jaintia and Zeme	36.36	0.50	Teron 2019, Bhattacharjee 2018, Sajem & Gosai 2006, Tamuli & Saikia 2004
Elephantopus scaber L.	Asteraceae	Herb/ NE	Whole plant and root	Fracture and stomach pain	Karbi	9.09	2.00	Teron 2019
Emilia sonchifolia (L.) DC. ex DC.	Asteraceae	Herb/ NE	Shoot	Dysentery	Karbi	9.09	1.00	Teron 2019
Tagetes erecta L.	Asteraceae	Herb/	Shoot	Jaundice	Karbi	9.09	1.00	Teron 2019

		NE						
Basella alba L.	Basellaceae	Climber/ NE	Whole plant	Jaundice	Karbi	9.09	1.00	Teron 2019
Begonia hatacoa Buch.-Ham. ex D.Don	Begoniaceae	Herb/ NE	Rhizome	Dysentery	Pnar	9.09	1.00	Teron 2019
Begonia palmata D.Don	Begoniaceae	Herb/ NE	Rhizome	Indigestion	Zeme	9.09	1.00	Tamuli & Saikia 2004
Begonia thomsonii A.DC.	Begoniaceae	Herb/ NE	Rhizome	Dermatitis	Karbi, Pnar	9.09	1.00	Teron 2019
Oroxylum indicum (L.) Kurz	Bignoniaceae	Tree/ NE	Flower, bark, leaf and seed	Deworming, gastritis, jaundice, stomach problem and snake bite	Karbi	45.45	1.00	Rengma *et al.* 2018, Bhattacharjee 2018, Baidya *et al.* 2020, Teron 2019, Basumatary *et al.* 2014
Begonia roxburghii A.DC.	Bigoniaceae	Herb/ NE	Rhizome, bulb, leaf, twig and whole plant	Thorn infection, stomach disorder, poison treatment, dermatitis, skin disease, indigestion and testicular pain	Jaintia, Lushai, Karbi, Tiwa, Zeme and Dimasa	54.55	1.17	Sajem & Gosai 2006, Sajem & Gosai 2010, Teron & Borthakur 2013, Teron 2019, Rout *et al.* 2012, Tamuli & Saikia 2004
Ananas comosus (L.) Merr.	Bromeliaceae	Herb/ NE	Fruit	Lung tonic	Dimasa	9.09	1.00	Rout *et al.*2012
Opuntia dillenii (Ker Gawl.) Haw.	Cactaceae	Herb/ LC	Stem and fruit	Asthma, cough and snake bite	Bodo Kachari	9.09	**3.00**	Basumatary *et al.* 2014
Opuntia ficus-indica (L.) Mill.	Cactaceae	Shrub/ DD	Whole plant	Ulcer and urine disease	Bodo Kachari	9.09	2.00	Basumatary *et al.* 2014
Lobelia nummularia Lam.	Campanulaceae	Herb/ NE	Fruit	Headache	Karbi	9.09	1.00	Teron 2019
Crateva nurvala Buch.-Ham.	Capparaceae	Tree/ NE	Shoot	Recovery from weakness after delivery	Karbi	9.09	1.00	Terangpi *et al.* 2014
Crateva religiosa G.Forst.	Capparaceae	Tree/ LC	Bark	Urinary complaint	Karbi	9.09	1.00	Teron 2019
Carica papaya L.	Caricaceae	Tree/ NE	Fruit	Expelling worm	Dimasa	9.09	1.00	Rout *et al.* 2012

Drymaria cordata (L.) Willd. ex Schult.	Caryophyllaceae	Herb/ NE	Whole plant and leaf	Dysentery, stomachache and sinusitis	Karbi	18.18	1.50	Teron 2019, Bhattacharjee 2018
Chloranthus elatior Link	Chloranthaceae	Shrub/ NE	Leaf	Smooth delivery and complicacy during delivery	Karbi	18.18	0.50	Teron 2019, Terangpi *et al.* 2014
Garcinia lanceifolia Roxb.	Clusiaceae	Tree/ NE	Seed	Diarrhoea	Dimasa	9.09	1.00	Rout *et al.*2012
Garcinia pedunculata Roxb. ex Buch.-Ham.	Clusiaceae	Tree/ NE	Fruit	Poison treatment, stomach ache and dysentery	Karbi	18.18	1.50	Teron & Borthakur 2013, Rengma *et al.* 2018
Gloriosa superba L.	Colchicaceae	Herb/ LC	Leaf	Worms	Dimasa	9.09	1.00	Rout *et al.*2012
*Terminalia bellirica (*Gaertn.) Roxb.	Combretaceae	Tree/ LC	Fruit	Constipation and dysentery	Karbi	9.09	2.00	Teron 2019
Terminalia chebula Retz.	Combretaceae	Tree/ LC	Fruit	Stomach pain, gastric problem, cough, fever, flu, dysentery, deworming and poision treatment	Bodo Kachari and Karbi	36.36	2.00	Basumatary *et al.*2014, Teron 2019, Rengma *et al.* 2018, Teron & Borthakur2013
Commelina benghalensis L.	Commelinaceae	Herb/ LC	Leaf	Ear ache	Karbi	9.09	1.00	Bhattacharjee 2018
Floscopa scandens Lour.	Commelinaceae	Herb/ LC	Shoot	Smooth child delivery	Tiwa	9.09	1.00	Teron 2019
Cuscuta reflexa Roxb.	Convolvulaceae	Climber/ LC	Whole plant and stem	Premature hair fall, graying of hair, dandruff and jaundice	Jaintia	27.27	1.33	Sajem & Gosai 2006, Teron 2019, Sajem & Gosai 2010
Ipomoea alba L.	Convolvulaceae	Climber/ LC	Leaf	Improve appetite	Dimasa	9.09	1.00	Rout *et al.* 2012
Cheilocostus speciosus (J.Koenig) C.D.Specht	Costaceae	Herb/ LC	Rhizome, leaf and root	Snake bite, digestion, urinary problem and burning	Karbi	27.27	1.33	Teron 2019, Rengma *et al.* 2018, Basumatary *et al.* 2014
Bryophyllum pinnatum (Lam.) Oken	Crassulaceae	Herb/ NE	Leaf	Eye sores, burns and bruises, kidney stones, hypertension,	Lushai, Jaintia, Zeme, Karbi and Bodo Kachari	54.55	1.50	Sajem & Gosai 2010, Sajem & Gosai 2006, Tamuli & Saikia 2004, Baidya *et al.* 2020,

				gall bladder stone, kidney problems, leucorrhoea, burn and boil				Teron 2019, Basumatary *et al.*2014
Benincasa hispida (Thunb.) Cogn.	Cucurbitaceae	Climber/ LC	Fruit	Fever and dysentery	Karbi and Dimasa	18.18	1.00	Teron 2019, Rout *et al.*2012
Coccinia grandis (L.) Voigt	Cucurbitaceae	Climber/ NE	Tuber	Stomachache	Karbi	9.09	1.00	Teron 2019
Cucumis melo L.	Cucurbitaceae	Herb/ NE	Fruit	Fever	Karbi	9.09	1.00	Teron 2019
Cucumis sativus L.	Cucurbitaceae	Climber/ NE	Leaf	Urinary problem	Karbi	9.09	1.00	Teron 2019
Cucurbita pepo L.	Cucurbitaceae	Climber/ LC	Fruit	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur 2013
Gymnopetalum chinense (Lour.) Merr.	Cucurbitaceae	Climber/ NE	Fruit	Dysentery	Karbi	9.09	1.00	Teron 2019
Hodgsonia macrocarpa (Blume) Cogn.	Cucurbitaceae	Climber/ NE	Fruit	Dysentery	Karbi	9.09	1.00	Teron 2019
Lagenaria siceraria (Molina) Standl.	Cucurbitaceae	Climber/ NE	Leaf	Fracture and poison treatment	Karbi	18.18	1.00	Teron 2019, Teron & Borthakur2013
Momordica charantia L.	Cucurbitaceae	Climber/ NE	Fruit, leaf and seed	High blood pressure, chest pain, rheumatism and rabies	Dimasa, Zeme, Jaintia and Lushai	36.36	1.00	Rout *et al.*2012, Tamuli & Saikia 2004, Sajem & Gosai 2006, Sajem & Gosai 2010
Cycas revoluta Thunb.	Cycadaceae	Tree/ LC	Female cone	Painful urination	Dimasa	9.09	1.00	Rout *et al.*2012
Cycas pectinata Buch.-Ham.	Cycadaceae	Tree/ VU	Leaf	Gastritis	Karbi	9.09	1.00	Bhattacharjee 2018
Dillenia indica L.	Dilleniaceae	Tree/ LC	Whole plant	Dysentery	Karbi	9.09	1.00	Baidya *et al.*2020
Dioscorea alata L.	Dioscoreaceae	Climber/ NE	Leaves, bark, tuber, whole plant	Blood pressure, weakness after delivery and poison treatment	Karbi	27.27	1.00	Baidya *et al.*2020, Terangpi *et al.* 2014, Teron & Borthakur2013
Dioscorea bulbifera L.	Dioscoreaceae	Climber NE	Bulbil	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur2013
Shorea robusta Gaertn.	Dipterocarpaceae	Tree/	Root	Wound healing	Karbi	9.09	1.00	Teron 2019

		LC						
Vatica lanceifolia (Roxburgh) Blume	Dipterocarpaceae	Tree/ CE	Bark	Dysentery	Karbi	9.09	1.00	Teron 2019
Elaeagnus caudata Schltdl. ex Momiy.	Elaeagnaceae	Climber/ NE	Roots	Miscarriage	Dimasa	9.09	1.00	Rout *et al.* 2012
Elaeocarpus tectorius (Lour.) Poir.	Elaeocarpaceae	Tree/ NE	Fruit	Constipation	Dimasa	9.09	1.00	Rout *et al.* 2012
Croton joufra Roxb.	Euphorbiaceae	Tree/ NE	Leaf	Reduce abdominal pain after delivery	Karbi	9.09	1.00	Terangpi *et al.* 2014
Euphorbia hirta L.	Euphorbiaceae	Herb/ NE	Whole plant	Dysentery	Karbi	9.09	1.00	Baidya *et al.*2020
Jatropha curcas L.	Euphorbiaceae	Shrub/ LC	Latex, leaf and stem	Burns, wounds, headache, toothache and blood coagulant	Dimasa, Karbi and Pnar	27.27	1.67	Rout *et al.*2012, Teron 2019, Rengma *et al.* 2018
Mallotus philippensis (Lam.) Müll.Arg.	Euphorbiaceae	Tree/ LC	Seeds	Skin infection	Karbi	9.09	1.00	Baidya *et al.*2020
Ricinus communis L.	Euphorbiaceae	Shrub/ NE	Leaf	Itching, skin problems and headache	Bodo Kachari and Karbi	18.18	1.50	Basumatary *et al.*2014, Teron 2019
Tragia involucrata L.	Euphorbiaceae	Shrub/ NE	Root	Intestinal worms	Karbi	9.09	1.00	Teron 2019
Curculigo orchioides Gaertn.	Hypoxidaceae	Herb/ NE	Rhizome and root	Blood clotting, relieve pain and poison treatment	Karbi	18.18	1.50	Teron 2019, Teron & Borthalur, 2013
Clerodendrum hastatum Lindl.	Lamiaceae	Shrub/ NE	Leaf	Vaginal itches	Karbi	9.09	1.00	Terangpi *et al.* 2014
Clerodendrum glandulosum Lindl.	Lamiaceae	Shrub/ NE	Leaf	High blood pressure and diabetes	Dimasa	45.45	0.40	Rout *et al.*2012, Tamuli & Saikia 2004, Sajem & Gosai 2006. Rengma *et al.* 2018, Sajem & Gosai 2010
Clerodendrum infortunatum L.	Lamiaceae	Shrub/ LC	Leaf and twig	Bee sting, insanity, deworming, dysentery, diabetes, high blood pressure, asthma, complication in	Dimasa, Karbi, Bodo Kachari and Jaintia	63.64	1.29	Rout *et al.* 2012, Teron 2019, Baidya *et al.* 2020, Basumatary *et al.* 2014, Sajem & Gosai 2006, Terangpi *et al.* 2014, Rengma *et al.* 2018

				menstruation and difficulty in breathing				
Elsholtzia strobilifera (Benth.) Benth.	Lamiaceae	Herb/ NE	Twigs	Reduce abdominal pain after delivery	Karbi	9.09	1.00	Terangpi *et al.*2014
Gmelina arborea Roxb.	Lamiaceae	Tree/ LC	Flower, leaf and fruit	Fever and stomach ache	Karbi	18.18	1.00	Baidya *et al.*2020, Teron 2019
Leucas aspera (Willd.) Link	Lamiaceae	Herb/ NE	Flower and leaf	Sinusitis	Karbi	9.09	1.00	Baidya *et al.*2020
Mentha spicata L.	Lamiaceae	Herb/ LC	Tender shoot and leaf	Liver enlargement and loss of vigour	Bodo Kachari	9.09	2.00	Basumatary *et al.*2014
Ocimum americanum L.	Lamiaceae	Herb/ NE	Leaf	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur2013
Ocimum basilicum L.	Lamiaceae	Herb/ NE	Leaf	Cut, accidental bleeding and cough	Bodo Kachari and Zeme	18.18	1.50	Basumatary *et al.* 2014, Tamuli & Saikia 2004
Ocimum tenuiflorum L.	Lamiaceae	Herb/ NE	Leaf	Stomach ache,head ache, cough and parasitic skin disease	Jaintia and Lushai	18.18	2.00	Sajem & Gosai 2006, Sajem & Gosai 2010
Premna pinguis C.B.Clarke	Lamiaceae	Herb/ NE	Tuber	Poison treatment and toothache	Karbi	18.18	1.00	Teron & Borthakur 2013, Teron 2019
Rotheca serrata (L.) Steane & Mabb.	Lamiaceae	Shrub/ NE	Leaf, flower and fruit	Fever, stomach ache, cuts and wound	Jaintia and Karbi	27.27	1.33	Sajem & Gosai 2006, Teron 2019, Bhattacharjee 2018
Vitex negundo L.	Lamiaceae	Tree/ LC	Leaf	Malaria	Karbi	9.09	1.00	Bhattacharjee 2018
Pogostemon linearis (Benth.) Kuntze	Lamiaceae	Herb/ NE	Leaf	Body ache	Karbi	9.09	1.00	Teron 2019
Pogostemon parviflorus Benth.	Lamiaceae	Herb/ NE	Leaf	Joint pain, cure vaginal wounds after delivery and poison treatment	Karbi	27.27	1.33	Rengma *et al.* 2018, Terangpi *et al.* 2014, Teron & Borthakur2013
Premna mollissima Roth	Lamiaceae	Tree/NE	Leaf	Toothache	Karbi	9.09	1.00	Teron 2019
Alseodaphne petiolaris Hook.f.	Lauraceae	Tree/ NE	Bark	Jaundice	Dimasa	9.09	1.00	Rout *et al.* 2012
Litsea cubeba (Lour.) Pers.	Lauraceae	Tree/ LC	Fruit	Cough	Dimasa	9.09	1.00	Rout *et al.*2012

Litsea glutinosa (Lour.) C.B.Rob.	Lauraceae	Tree/ LC	Bark of stem	Bone fracture	Bodo Kachari	9.09	1.00	Basumatary *et al.* 2014
Careya arborea Roxb.	Lecythidaceae	Tree/ NE	Root	Dysentery, diarrhoea and blood dysentery	Karbi	9.09	3.00	Teron 2019
Tadehagi triquetrum (L.) H.Ohashi	Leguminaceae	Herb/ NE	Leaf and seed	Vermicide and deworming	Lushai and Jaintia	18.18	1.00	Sajem & Gosai, 2008, Sajem & Gosai 2006
Abrus precatorius L.	Leguminosae	Shrub/ NE	Seed and leaf	Poison treatment and cough	Karbi	18.18	1.00	Teron & Borthakur2013, Bhattacharjee 2018
Albizia lebbeck (L.) Benth.	Leguminosae	Tree/ LC	Leaf, seed and bark	Dental problem, eye disorders and piles	Karbi	9.09	3.00	Baidya *et al.*2020
Albizia procera (Roxb.) Benth.	Leguminosae	Tree/ LC	Bark	Stomach pain	Karbi	9.09	1.00	Baidya *et al.*2020
Cajanus cajan (L.) Millsp.	Leguminosae	Shrub/ NT	Seed, shoot and leaf	Expelling worm, jaundice and diarrhoea	Bodo Kachari, Karbi and Dimasa	27.27	1.00	Basumatary *et al.* 2014,Teron 2019, Rout *et al.* 2012
Erythrina variegata L.	Leguminosae	Tree/ LC	Leaf	Eye problem, skin disease and nose bleeding	Bodo Kachari	9.09	3.00	Basumatary *et al.*2014
Lablab purpureus (L.) Sweet	Leguminosae	Climber/ NE	Root and whole plant	Malaria, chest pain, external bleeding, jaundice and sterility	Zeme and Karbi	27.27	1.67	Tamuli & Saikia 2004, Teron 2019, Terangpi *et al.*2014
Mimosa pudica L.	Leguminosae	Herb/ LC	Root	Jaundice, oral contraceptive, piles, fungal skin disease and birth control	Karbi, Pnar, Lushai, Jaintia and Zeme	54.55	0.83	Baidya *et al.* 2020, Teron 2019, Sajem & Gosai 2006, Sajem & Gosai 2010, Tamuli & Saikia 2004, Terangpi *et al.* 2014,
Mucuna nigricans (Lour.) Steud.	Leguminosae	Climber/ NE	Seed	Fever and cough	Karbi	9.09	2.00	Teron 2019
Pterocarpus santalinus L.f.	Leguminosae	Tree/ EN	Seed	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur2013
Senna alata (L.) Roxb.	Leguminosae	Herb/ LC	Leaf	Deworming	Karbi	18.18	0.50	Teron 2019, Rengma *et al.* 2018
Senna tora (L.) Roxb.	Leguminosae	Herb/ NE	Leaf, bark and root	Skin diseases, ring worms, leprosy, tonsil and jaundice	Jaintia, Lushai and Karbi	36.36	1.25	Sajem & Gosai 2006, Sajem & Gosai 2008, Baidya *et al.*2020, Bhattacharjee 2018
Bauhinia purpurea L.	Leguminosae	Tree/	Leaf	Poisonous bites	Karbi	9.09	1.00	Baidya *et al.*2020

Bauhinia scandens L.	Leguminosae	LC Climber/ NE	Stem	Snake bite	Dimasa	9.09	1.00	Rout *et al.*2012
Lawsonia inermis L.	Lythraceae	Tree/ NE	Leaf	Scabies	Bodo Kachari	9.09	1.00	Basumatary *et al.* 2014
Gossypium hirsutum L.	Malvaceae	Shrub/ VU	Seed	Memory enhancer	Zeme	9.09	1.00	Tamuli & Saikia 2004
Hibiscus rosa-sinensis L.	Malvaceae	Tree/ NE	Bark, flower, shoot, leaf and latex	Cholera, stomach pain and dysentery	Bodo Kachari and Karbi	18.18	1.50	Basumatary *et al.* 2014, Baidya *et al.* 2020
Hibiscus sabdariffa L.	Malvaceae	Shrub/ NE	Leaf and calyx	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur 2013
Sida cordifolia L.	Malvaceae	Herb/ NE	Leaf	Swelling problem	Bodo Kachari	9.09	1.00	Basumatary *et al.* 2014
Urena lobata L.	Malvaceae	Shrub/ LC	Leaf	Blood pressure, rheumatic pain and body ache	Lushai, Jaintia and Zeme	27.27	1.00	Sajem & Gosai, 2008, Sajem & Gosai 2006, Tamuli & Saikia 2004
Bombax ceiba L.	Malvaceae	Tree/ LC	Root	Cough and urinary complaint	Karbi	9.09	2.00	Teron 2019
Gossypium arboreum L.	Malvaceae	Tree/ NT	Seed	Memory power	Lushai and Jaintia	18.18	0.50	Sajem & Gosai 2010, Sajem & Gosai 2006
Phrynium pubinerve Blume	Marantaceae	Herb/ NE	Root	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur2013
Melastoma malabathricum L.	Melastomataceae	Shrub/ NE	Leaf, twig and whole plant	Indigestion, dysentery and poison treatment	Lushai, Jaintia, Zeme and Karbi	54.55	0.50	Sajem & Gosai 2010, Sajem & Gosai 2006, Tamuli & Saikia 2004, Baidya *et al.* 2020, Teron 2019, Teron & Borthakur 2013
Azadirachta indica A.Juss.	Meliaceae	Tree/ LC	Leaf and Bark	Antifertility, skin disease, boil, itching, allergy, worms and pox	Karbi, Bodo Kachari and Dimasa	36.36	1.75	Terangpi *et al.* 2014, Basumatary *et al.* 2014, Teron 2019, Rout *et al.* 2012
Chukrasia tabularis A.Juss.	Meliaceae	Tree/ LC	Leaf	Astringent	Karbi	9.09	1.00	Baidya *et al.* 2020
Dysoxylum gotadhora	Meliaceae	Tree/	Seed	Leprosy	Karbi	9.09	1.00	Teron 2019

(Buch.-Ham.) Mabb.		NE						
Tinospora sinensis (Lour.) Merr.	Menispermaceae	Climber/ NE	Stem	Diabetes	Karbi	9.09	1.00	Baidya *et al.* 2020
Ficus hispida L.f.	Moraceae	Tree/ LC	Leaf, bark and fruit	Ringworm	Karbi	9.09	1.00	Baidya *et al.* 2020
Ficus religiosa L.	Moraceae	Tree/ NE	Bark	Jaundice	Karbi	9.09	1.00	Teron 2019
Morus australis Poir.	Moraceae	Shrub/ NE	Fruit	Urinary problems	Karbi	9.09	1.00	Teron 2019
Musa paradisiaca L.	Musaceae	Herb/ NE	Stem and sap	Fever, malaria, blood coagulant and sterility	Bodo Kachari, Dimasa and Karbi	36.36	1.00	Basumatary *et al.* 2014, Rout *et al.* 2012, Teron 2019, Terangpi *et al.* 2014
Musa velutina H.Wendl. &Drude	Musaceae	Herb/ NE	Sap	Blood coagulant	Karbi	9.09	1.00	Teron 2019
Syzygium cumini (L.) Skeels	Myrtaceae	Tree/ LC	Seed	Diabetes	Dimasa	9.09	1.00	Rout *et al.*2012
Psidium guajava L.	Myrtaceae	Tree/ LC	Shoot and leaf	Dysentery and stomachache	Karbi, Tiwa and Bodo Kachari	18.18	1.00	Teron 2019, Basumatary *et al.*2014
Nelumbo nucifera Gaertn.	Nelumbonaceae	Aquatic Herb/ NE	Flower	Jaundice	Bodo Kachari	9.09	1.00	Basumatary *et al.* 2014
Mirabilis jalapa L.	Nyctaginaceae	Herb/ NE	Leaf	Skin itch, sprains, joint swelling and poison treatment	Dimasa	18.18	2.00	Rout *et al.* 2012, Teron & Borthakur2013
Erythropalum scandens Blume.	Olacaceae	Climber/ LC	Bark and leaf	Piles and prolapsed genitals	Karbi	18.18	1.00	Teron 2019, Terangpi *et al.* 2014
Olax acuminata Wall. ex Benth.	Olacaceae	Herb/ NE	Leaf	Body ache	Karbi	9.09	1.00	Teron 2019
Nyctanthes arbor-tristis L.	Oleaceae	Tree/ NE	Leaf and flower	Fever, stomach pain, baldness and malaria	Bodo Kachari and Karbi	18.18	2.00	Basumatary *et al.* 2014, Bhattacharjee 2018
Ludwigia hyssopifolia (G.Don) Exell	Onagraceae	Herb/ LC	Twig	Foot infection	Karbi	9.09	1.00	Teron 2019
Helminthostachys zeylanica (Linnaeus) Hook.	Ophioglossaceae	Herb/ NE	Root	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur 2013
Papilionanthe teres	Orchidaceae	Epiphyte/	Stem	Wound	Karbi, Tiwa	9.09	1.00	Teron 2019

(Roxb.) Schltr.		NE						
Averrhoa carambola L.	Oxalidaceae	Tree/ NE	Fruits	Jaundice and poison treatment	Bodo Kachari, Karbi and Tiwa	27.27	0.67	Basumatary *et al.*2014, Teron 2019, Teron & Borthakur2013
Oxalis corniculata L.	Oxalidaceae	Herb/ NE	Whole plant	Dysentery	Karbi	9.09	1.00	Baidya *et al.*2020
Oxalis debilis var. corymbosa (DC.) Lourteig	Oxalidaceae	Herb/ NE	Whole plant	Dyspepsia, jaundice and indigestion	Lushai, Jaintia and Zeme	27.27	1.00	Sajem & Gosai 2010, Sajem & Gosai 2006, Tamuli & Saikia 2004
Argemone mexicana L.	Papaveraceae	Herb/ NE	Leaf	Headache, malarial fever, leprosy and jaundice	Bodo Kachari	9.09	4.00	Basumatary *et al.*2014
Millettia pachycarpa Benth.	Papilionaceae	Climber/ NE	Bark	Skin itch and skin infection	Dimasa	9.09	1.00	Rout *et al.*2012
Passiflora foetida L.	Passifloraceae	Climber/ NE	Fruit	Sore tongue	Karbi	9.09	1.00	Teron 2019
Phyllanthus amarus Schumach. &Thonn.	Phyllanthaceae	Herb/ NE	Fruit	Jaundice	Karbi	9.09	1.00	Baidya *et al.*2020
Phyllanthus emblica L.	Phyllanthaceae	Tree/ LC	Fruit and bark	Jaundice, stomach ache, blood purifier, cough and cold	Karbi, Pnar and Bodo Kachari	27.27	1.67	Baidya *et al.*2020, Teron 2019, Basumatary *et al.* 2014
Phyllanthus fraternus G.L.Webster	Phyllanthaceae	Herb/ NE	Leaf, root and whole plant	Diarrhoea and jaundice	Zeme and Karbi	18.18	1.00	Tamuli & Saikia 2004, Teron 2019
Phyllanthus niruri L.	Phyllanthaceae	Herb/ NE	Leaf and root	Diarrhoea and fever	Jaintia	9.09	2.00	Sajem & Gosai 2006
Piper longum L.	Piperaceae	Climber/ NE	Fruit, root and seed	Malaria, body ache, cough, tooth ache, recovery from weakness after delivery and poison treatment	Jaintia, karbi, Lushai and Tiwa	54.55	1.00	Sajem & Gosai 2006, Baidya *et al.* 2020, Sajem & Gosai 2010, Teron 2019, Terangpi *et al.*, 2014, Teron & Borthakur 2013
Piper nigrum L.	Piperaceae	Climber/ NE	Fruit	Dog bite, toothache, recovery from weakness after delivery and poison treatment	Karbi and Tiwa	27.27	1.33	Teron 2019, Terangpi *et al.*, 2014, Teron & Borthakur 2013

Plantago major L.	Plantaginaceae	Herb/ LC	Leaf	Ear ache, tooth ache, gum bleeding and jaundice	Lushai and Jaintia	18.18	2.00	Sajem & Gosai 2010, Sajem & Gosai 2006
Plantago ovata Forssk.	Plantaginaceae	Herb/ NE	Leaves	Jaundice and bee sting	Zeme	9.09	2.00	Tamuli & Saikia 2004
Scoparia dulcis L.	Plantaginaceae	Herb/ NE	Leaf, Root and Whole plant	Helps in cavity formation, colic pain, malaria and foot infection and dental cavities	Jaintia, Karbi and Lushai,	27.27	1.67	Sajem & Gosai 2006, Teron 2019, Sajem & Gosai 2010
Plumbago indica L.	Plumbaginaceae	Shrub/ NE	Root	Deworming	Karbi	9.09	1.00	Teron 2019
Plumbago zeylanica L.	Plumbaginaceae	Herb/ NE	Root and stem	Deworming and initiating abortion	Karbi	18.18	1.00	Teron 2019, Terangpi *et al.*2014
Arundo donax L.	Poaceae	Herb/ LC	Leaf and shoot	Leprosy, fever and leg pain	Bodo Kachari	9.09	3.00	Basumatary *et al.*2014
Bambusa multiplex (Lour.) Raeusch. ex Schult.	Poaceae	Herb/ NE	Stem	External bleeding	Zeme	9.09	1.00	Tamuli & Saikia 2004
Cynodon dactylon (L.) Pers.	Poaceae	Herb/ NE	Leaf and whole plant	Intestinal infection, skin disease and jaundice	Karbi	18.18	1.50	Baidya *et al.* 2020, Teron 2019
Saccharum bengalense Retz.	Poaceae	Herb/ NE	Root	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur 2013
Thysanolaena latifolia (Roxb. ex Hornem.) Honda	Poaceae	Herb/ NE	Twig and leaf	Sterility, flatulence and improve digestion	Karbi and Dimasa	18.18	1.50	Terangpi *et al.* 2014, Rout *et al.*2012
Dendrocalamus hamiltonii Nees&Arn. ex Munro	Poaceae	Herb/ NE	Bark	Cuts and wound	Karbi	9.09	2.00	Rengma *et al.*, 2018
Desmostachya bipinnata (L.) Stapf	Poaceae	Herb/ LC	Tuber	Pharyngitis	Karbi	9.09	1.00	Teron 2019
Oryza sativa L.	Poaceae	Herb/ LC	Grain	Allergy, reduce pain during delivery and poison treatment	Karbi	27.27	1.00	Teron 2019, Terangpi *et al.*, 2014, Teron & Borthakur2013
Phragmites karka (Retz.) Trin. ex Steud.	Poaceae	Herb/ LC	Shoot	Jaundice	Karbi	9.09	1.00	Teron 2019
Saccharum officinarum L.	Poaceae	Herb/ NE	Stem	Jaundice	Karbi, Pnar, Tiwa	9.09	1.00	Teron 2019

Persicaria barbata (L.) H.Hara	Polygonaceae	Herb/ LC	Flower and leaf	Tooth infection and nose bleeding	Zeme	9.09	2.00	Tamuli & Saikia 2004
Persicaria chinensis (L.) H. Gross	Polygonaceae	Herb/ NE	Shoot and leaf	Stomach ache, dyspepsia, indigestion, dysentery and small pox	Karbi, Jaintia and Zeme	27.27	1.67	Baidya *et al.*2020, Tamuli & Saikia 2004, Sajem & Gosai 2006
Persicaria hydropiper (L.) Delarbre	Polygonaceae	Herb/ LC	Leaves	Uterine disorder	Zeme	9.09	1.00	Tamuli & Saikia 2004
Polygonum affine D. Don	Polygonaceae	Herb/ NE	Leaf	Poison treatment, sinus, ulcer treatment, antidote, blood coagulant, cuts and wounds	Karbi and Jaintia	27.27	2.33	Teron & Borthakur2013, Teron 2019, Sajem & Gosai 2006
Polygonum microcephalum D. Don	Polygonaceae	Shrub/ NE	Leaf	Poison treatment, cuts and wounds	Karbi	18.18	1.50	Teron & Borthakur 2013, Rengma *et al.* 2018
Pyrrosia obovata (Blume) Ching	Polypodiaceae	Herb/ NE	Leaf	Blood coagulant	Karbi	9.09	1.00	Teron 2019
Rhamnus nepalensis (Wall.) M.A. Lawson	Rhamnaceae	Herb/ LC	Fruit	Headache	Karbi	9.09	1.00	Teron 2019
Rubus alceifolius Poir.	Rosaceae	Shrub/ NE	Roots, shoots and fruits	Menstrual cramps	Karbi	9.09	1.00	Baidya *et al.* 2020
Rubus ellipticus Sm.	Rosaceae	Shrub/ NE	Leaf	Diarrhoea	Dimasa	9.09	1.00	Rout *et al.*2012
Coffea benghalensis B.Heyne ex Schult.	Rubiaceae	Shrub/ EN	Root	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur 2013
Paederia foetida L.	Rubiaceae	Climber/ NE	Stem, leaf, root and whole plant	Dysentery, stomach ache, malaria, joint pain, muscle stiffness, jaundice, gastritis, constipation, urinary problems and jaundice	Bodo Kachari, Zeme and Karbi	54.55	1.67	Basumatary *et al.*2014, Tamuli & Saikia 2004, Baidya *et al.* 2020, Rengma *et al.* 2018, Bhattacharjee 2018, Teron 2019
Ixora thwaitesii Hook.f.	Rubiaceae	Shrub/ NE	Leaf	Wound, analgesic after child birth and wound healing	Karbi, Pnar, Tiwa	9.09	3.00	Teron 2019

Morinda angustifolia Roxb.	Rubiaceae	Tree/ NE	Leaf	Giddiness, urinary problems, dysentery, fever and toothache	Karbi	9.09	5.00	Teron 2019
Ophiorrhiza ochroleuca Hook.f.	Rubiaceae	Herb/ LC	Leaf	Cut and wound	Karbi	9.09	2.00	Teron 2019
Aegle marmelos (L.) Corrêa	Rutaceae	Tree/ NT	Fruit	Diarrhoea and constipation	Dimasa and Karbi	18.18	1.00	Rout *et al.* 2012, Teron 2019
Citrus limon (L.) Osbeck	Rutaceae	Tree/ LC	Stem, Fruit	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur 2013
Citrus maxima (Burm.) Merr.	Rutaceae	Tree/ LC	Fruit	Involuntary shaking	Dimasa	9.09	1.00	Rout *et al.*2012
Micromelum integerrimum (Buch.-Ham. ex DC.) Wight &Arn. ex M. Roem.	Rutaceae	Tree/ LC	Stem	Hasten delivery of child	Karbi	9.09	1.00	Terangpi *et al.*2014
Zanthoxylum armatum DC.	Rutaceae	Tree/ LC	Leaf, shoot and root	Urinary problems, intestinal worms, fever, cough, fever and ringworm	Karbi, Dimasa, Pnar and Tiwa	18.18	2.50	Rout *et al.* 2012, Teron 2019
Zanthoxylum oxyphyllum Edgew.	Rutaceae	Herb/ NE	Leaves	Tooth problem.	Bodo Kachari	9.09	1.00	Basumatary *et al.*2014
Citrus paradisi Macfad.	Rutaceae	Tree/ NE	Fruit	Kidney stone	Karbi	9.09	1.00	Rengma *et al.* 2018
Micromelum minutum (Forst. f.) Wt. &Arn.	Rutaceae	Tree/ LC	Stem	Dysentery and to hasten process of delivery	Karbi	9.09	2.00	Teron 2019
Murraya koenigii (L.) Spreng.	Rutaceae	Shrub/ LC	Leaf	Stomachache, gastritis and fever	Karbi and Bodo Kachari	27.27	1.00	Teron 2019, Rengma *et al.* 2018, Basumatary *et al.* 2014
Murraya paniculata(L.) Jack	Rutaceae	Shrub/ NE	Root	Labour pain, body pain and stomachache	Karbi	9.09	3.00	Teron 2019
Xylosma longifolia Clos.	Salicaceae	Tree/ NE	Stem and bark	Poison treatment and dysentery	Karbi	18.18	1.00	Teron & Borthakur 2013, Teron 2019
Aesculus assamica Griff.	Sapindaceae	Tree/ NE	Leaf	Ear sore	Karbi	9.09	1.00	Teron 2019

Sapindus mukorossi Gaertn.	Sapindaceae	Tree/ LC	Fruit	Skin disease and poison treatment	Dimasa and Karbi	1818	1.00	Rout *et al.* 2012, Teron & Borthakur 2013
Houttuynia cordata Thunb.	Saururaceae	Herb/ NE	Leaves	Diarrhoea, dysentery, skin infections, body ache, weakness after delivery and gastritis	Bodo Kachari and Karbi	45.45	1.20	Basumatary *et al.*2014, Baidya *et al.* 2020, Teron 2019, Terangpi *et al.* 2014, Rengma *et al.*, 2018
Picrasma javanica Blume	Simaroubaceae	Tree/ LC	Fruit	Dysentery	Karbi	9.09	1.00	Teron 2019
Brucea mollis Wall. ex Kurz	Simaroubaceae	Herb/ LC	Fruit and root	Fever and dysentery	Karbi	9.09	2.00	Teron 2019
Brugmansia suaveolens (Humb. & Bonpl. ex Willd.) Bercht. & J.Presl	Solanaceae	Shrub/ EW	Leaf	Body ache and fatigue	Dimasa	9.09	2.00	Rout *et al.* 2012
Datura innoxia Mill.	Solanaceae	Herb / NE	Leaf	Skin itching	Dimasa	9.09	1.00	Rout *et al.*2012
Datura metel L.	Solanaceae	Shrub/ NE	Fruit	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur 2013
Nicotiana plumbaginifolia Viv.	Solanaceae	Herb/ NE	Leaf	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur 2013
Nicotiana tabacum L.	Solanaceae	Herb/ NE	Leaf and flower	Skin itch, bed bugs and poison treatment	Zeme, Karbi, Lushai and Jaintia	36.36	0.75	Tamuli & Saikia 2004, Teron & Borthakur 2013, Sajem & Gosai 2010, Sajem & Gosai 2006
Solanum indicum L.	Solanaceae	Shrub/ LC	Fruit	Cough, asthma, teeth disorders, high blood pressure and jaundice	Karbi, Lushai, Jaintia and Zeme	36.36	1.25	Baidya *et al.* 2020, Sajem & Gosai 2010, Sajem & Gosai 2006, Tamuli & Saikia 2004
Solanum aethiopicum L.	Solanaceae	Herb/ NE	Fruit	High blood pressure	Dimasa	9.09	1.00	Rout *et al.*2012
Solanum tuberosum L.	Solanaceae	Herb/ NE	Tuber	Recovery from weakness after delivery	Karbi	9.09	1.00	Terangpi *et al.*2014
Capsicum annuum L.	Solanaceae	Herb/ LC	Leaf and fruit	Dysentery, stomach pain, leech bite and poison treatment	Karbi and Dimasa	27.27	1.33	Teron 2019, Rout *et al.*2012, Teron & Borthakur2013

Physalis peruviana L.	Solanaceae	Shrub/ NE	Fruit and shoot	Analgesic, stomach ache and dysentery	Karbi	36.36	0.75	Teron 2019, Rengma *et al.* 2018, Bhattacharjee 2018, Teron 2019
Solanum ferox L.	Solanaceae	Herb/ NE	Fruit	Toothache	Karbi	9.09	1.00	Teron 2019
Solanum aculeatissimum Jacq.	Solanaceae	Herb/ NE	Fruit	Toothache and insecticide	Karbi	9.09	2.00	Teron 2019
Solanum americanum Mill.	Solanaceae	Herb/ NE	Fruit	Deworming	Karbi	9.09	1.00	Bhattacharjee 2018
Solanum surattense Burm. f.	Solanaceae	Herb/ NE	Fruit	Toothache	Karbi	9.09	1.00	Teron 2019
Amblovenatum opulentum J.P. Roux	Thelypterdaceae	Herb/ NE	Leaf	Headache rheumatism, joint pain and backache	Karbi	18.18	2.00	Teron 2019, Rengma *et al.* 2018
Cyclosorus extensus (Blume) H. Itô	Thelypteridaceae	Fern/ NE	Leaf	Herpes and skin infection	Dimasa	9.09	2.00	Rout *et al.* 2012
Aquilaria malaccensis Lam.	Thymelaeaceae	Tree/ CE	Bark of stem	Stomach pain, snake bite and vomiting	Bodo Kachari	9.09	3.00	Basumatary *et al.* 2014
Linostoma decandrum (Roxb.) Wall. ex Meisn.	Thymelaeaceae	Shrub/ NE	Root	Ringworm	Karbi	9.09	1.00	Teron 2019
Lantana camara L.	Verbenaceae	Shrub/ NE	Leaves	Blood clotting and constipation	Karbi	9.09	2.00	Baidya *et al.*2020
Lippia alba (Mill.) N.E.Br. ex Britton &P.Wilson	Verbenaceae	Shrub/ NE	Leaf	Conjunctivitis	Karbi	9.09	1.00	Bhattacharjee 2018
Cayratia pedata (Lam.) Gagnep.	Vitaceae	Climber/ VU	Leaf	Poison treatment	Karbi	9.09	1.00	Teron & Borthakur, 2013
Cissus quadrangularis L.	Vitaceae	Climber/ NE	Leaf and stem	Fracture, sprain and joint pain	Bodo Kachari and Karbi	27.27	1.00	Basumatary *et al.* 2014, Teron 2019, Bhattacharjee 2018
Aloe vera (L.) Burm.f.	Xanthorrhoeaceae	Herb/ NE	Stem	Burning and white discharge	Bodo Kachari	9.09	2.00	Basumatary *et al.* 2014
Alpinia galanga (L.) Willd.	Zingberaceae	Herb/ NE	Rhizome	Cough, flu, pharyngitis and bronchitis	Karbi	18.18	2.00	Teron 2019, Bhattacharjee 2018
Boesenbergia rotunda (L.) Mansf.	Zingberaceae	Herb/ LC	Rhizome and tuber	Fever and poison treatment	Karbi	18.18	1.00	Teron 2019, Teron & Borthakur2013
Hedychium coronarium J.Koenig	Zingberaceae	Herb/ DD	Rhizome	Snake bite	Karbi	9.09	1.00	Teron 2019

Kaempferia galanga L.	Zingberaceae	Herb/ DD	Rhizome	Poison treatment, dog and pig bites	Karbi	18.18	1.50	Teron 2019, Teron & Borthakur 2013
Alpinia nigra (Gaertn.) Burtt	Zingiberaceae	Herb/ LC	Root and stem	Poison treatment, headache, sore throat, chest pain and diabetes	Karbi and Bodo Kachari	18.18	2.50	Teron & Borthakur 2013, Basumatary *et al.* 2014
Amomum aromaticum Roxb.	Zingiberaceae	Herb/ NE	Fruits	Cough and pox	Bodo Kachari	9.09	2.00	Basumatary *et al.* 2014
Amomum dealbatum Roxb.	Zingiberaceae	Herb/ DD	Rhizome, root and leaf	Joint pain, cramps and muscle pain	Lushai, Jaintia and Zeme	27.27	1.00	Sajem & Gosai 2010, Sajem & Gosai 2006, Tamuli & Saikia 2004
Curcuma amada Roxb.	Zingiberaceae	Herb/ NE	Rhizome	Gastritis and dysentery	Karbi	27.27	0.67	Rengma *et al.* 2018, Bhattacharjee 2018, Teron 2019
Curcuma longa L.	Zingiberaceae	Herb/ DD	Rhizome	Sprains, cramps, antiseptic, dyspepsia, gastritis, stomach disorder, bone fracture and poison treatment	Dimasa	54.55	1.33	Rout *et al.* 2012, Teron 2019, Sajem & Gosai 2010, Basumatary *et al.*2014, Sajem & Gosai 2006, Teron & Borthakur 2013
Zingiber officinale Roscoe	Zingiberaceae	Herb/ NE	Rhizome, leaf and root	Stomach disorder, cough, cold, fever, arthritis, recovery from weakness after delivery, poison treatment, blood coagulation, sprain, flu and sore throat	Bodo Kachari, Karbi, Pnar and Dimasa	54.55	1.83	Basumatary *et al.*2014, Terangpi *et al.* 2014, Teron & Borthakur 2013, Baidya *et al.* 2020, Teron 2019, Rout *et al.*2012
Zingiber zerumbet (L.) Roscoe ex Sm.	Zingiberaceae	Herb/ DD	Rhizome	Blood dysentery	Karbi	18.18	0.50	Rengma *et al.* 2018, Bhattacharjee 2018

***Abbreviations**: CE- Critically Endangered; EN- Endangered; NT-Near Threatened; VU-Vulnerable; EW- Extinct in the wild; DD-Data Deficient; LC-Least Concerned; NE-Not Evaluated