



Full Length Research Article

SOME INDIGENOUS MEDICINAL PLANTS AND ITS USES IN ZUNHEBOTO DISTRICT, NAGALAND

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ARTICLE INFO

Article History:

Received 11th May, 2015
Received in revised form
29th June, 2015
Accepted 02nd July, 2015
Published online 31st August, 2015

Key Words:

Sumi Tribe,
Medicinal plants, Uses.

ABSTRACT

The present study was carried out in the district of Zunheboto, Nagaland which lies at 94.52° East Longitude and 25.97° North Latitude covering a total area of 1255 square kilometres. *The study was conducted during January 2013 to December 2013. The distribution and abundance of these indigenous medicinal plants were recorded through consultation of the villagers and local traditional healers of Sumi tribe of Zunheboto District. In the present study, a total of 59 medicinal plants were documented and further the scientific names, common names, local names, family, habitat and medicinal uses were given. The indigenous medicinal plants documented were found in warm and cold regions of the district respectively*

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INTRODUCTION

India is considered as one of 17 mega biodiversity centres in the world comprising of two hotspots regions viz; Western Ghats and Eastern Himalayas. The rich and diverse flora and fauna of India is an indication of the country's wide range of environmental regimes. The country has wide ranging ecosystem from hot and humid tropics to alpine meadow. The total flora comprises over 45,000 species in the region. Out of which, 15000 are flowering plants having medicinal values and the rest non-flowering plants. The North-East India comprises of 50% of the India's large biodiversity. The region is considered as the centre of speciation and is also the main centres for the origin of cultivated crops. This region has diverse natural resources which are useful to the people of the region and also serve as a platform for biodiversity interaction at different levels. Nagaland is the sixteen state of India and it borders the state of Assam to the west, Arunachal Pradesh and part of Assam to the north, Burma to the east and Manipur to the south. The state capital is Kohima and the largest city is Dimapur. It has an area of 16,579 square kilometres with a population of 1,980,602 per the 2011 Census of India. The state is inhabited by 16 major tribes - Ao, Angami, Chakhesang, Chang, Khamniungan, Konyak, Lotha, Phom,

Pochury, Rengma, Sangtam, Sumi, Yimchunger, Zeliang, Kuki and Kachari. Each tribe is unique in character with its own distinct customs, language and dress. Nagaland has basically an agricultural economy. Over 70% of the population is dependent on agriculture. The main crops are rice, millet, maize and pulses. Rice is the dominant crop and also the staple diet of the people. Of the gross cropped area under food grains, rice accounts for about 84.4%. The two methods of cultivation among the Naga tribes are jhuming and terrace cultivation.

The area under jhum cultivation is about 87,339 hectares and under terraced cultivation is about 62,091 hectares. Nagaland with its varied agro-climatic conditions has several types of forest and is covered with coniferous trees, numerous broad leaved varieties of flora, medicinal plants, bamboos and it is therefore has immense potential to utilize and cultivate almost all varieties of medicinal and aromatic plants. The indigenous people of the state have vast knowledge of their plant resources as medicine and have been using over the years. However, very few studies were made available on the uses of medicinal plants from Zunheboto district. In this regard, the present study is to document the information about the uses of medicinal plants by the Sumi tribe of Zunheboto district.

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MATERIALS AND METHODS

Study site

The present study was carried out in two locations within the Zunheboto district which lies at 94.52° East Longitude and 25.97° North Latitude. The two locations were; lower altitude of 800 metres above sea level at VK range and the higher altitude of 1555.77 metres above sea level at Aghunato range. The villages selected under VK range were: Mukhami and Phushimi and the villages selected under Aghunato range were: Luvishie and Aghunato. Comparing the two locations, the vegetation was sparse at VK range due to frequent human activities and interference while the Aghunato range has rich vegetation and denser forest.

Method

The survey was conducted in January 2013 to December 2013 in the selected villages through personal interviews and interaction about collection practices to ensure long-term survival of wild populations and their associated habitats. The information regarding the use of medicinal plants by the local traditional healers were recorded during the period. The medicinal plants were observed in the natural habitats in both the two locations and simultaneously the plants were collected for herbarium records.

RESULT

A total of 59 medicinal plants having 49 genera and 38 families were recorded in the present study. The information regarding the scientific names, common names, local names, families, habits, parts used and the therapeutic uses of the plants recorded were given in the Table -1.

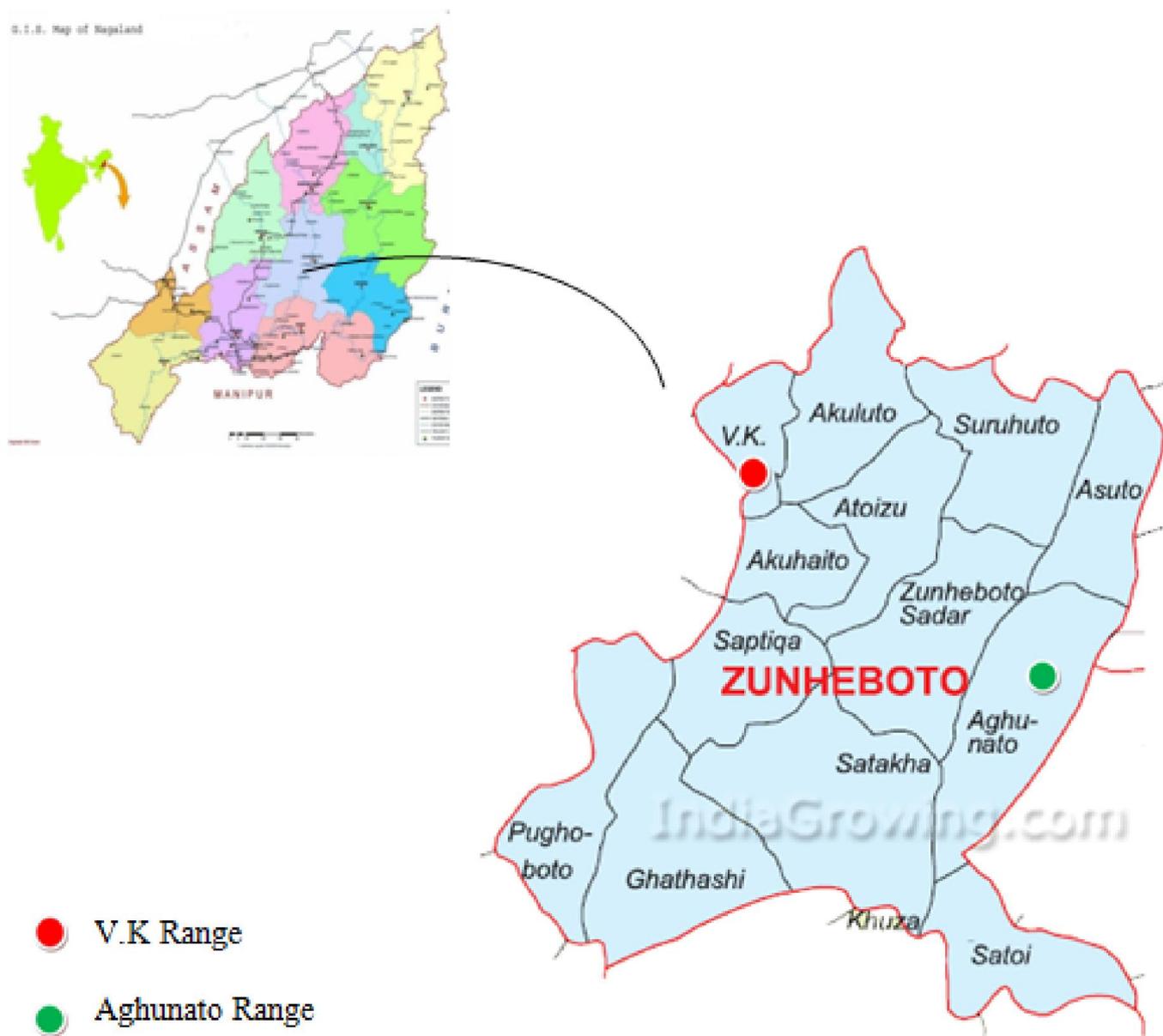


Fig.1. Map of Zunheboto district, Nagaland

Table 1. List of medicinal plants and its uses by the Sumi tribe of Zunheboto district, Nagaland

Sl.No	Scientific name	Common name	Local name	Family	Habit	Part used	Uses
1	<i>Allium chinense</i> G.Don	Japanese scallion	Atsuna	Liliaceae	Herb	Bulb and leaves	Fever, stomach-ache
2	<i>Allium hookeri</i>	Chives	Lava tsuna	Liliaceae	Herb	Leaves and roots	Vegetable and Anthelmintic.
3	<i>Alocasia macrorrhiza</i> L.	Giant taro	Ayexani	Araceae	Herb	Leaves, stems and corms	De-worming
4	<i>Arisaema concinnum</i>	Elegant cobra lily	Apighibo	Araceae	Herb	Tubers	De-worming for cattle, insect repellent
5	<i>Arisaema erubescens</i>	Chinese cobra lily	Apighibo	Araceae	Herb	Tubers	Anthelmintic
6	<i>Artemisia vulgaris</i>	Common wormwood	Apighibo	Asteraceae	Herb	Leaves and roots	Antipyretic, Anthelmintic and against skin infection.
7	<i>Baccaurea ramiflora</i> Lour.	Burmese grape	Tamathi	Phyllanthaceae	Tree	Fruits	Tonic
8	<i>Bauhinia glauca</i> (Benth.) Wall.ex Benth.	Climbing bauhinia	Qopupu	Caesalpiniaceae	Climber	Bark	Astringent, Diarrhoea, dysentery
9	<i>Bauhinia variegata</i> Lam.	Mountain ebony	Qopupu	Caesalpiniaceae	Tree	Flowers, bark and roots	Diarrhoea, dysentery & stomach disorders.
10	<i>Begonia hirtella</i>	Begonia	Apa-abo	Begoniaceae	Herb	Roots	Astringent. haematemesis.
11	<i>Bombax ceiba</i> L.	Cotton tree	Apunebo	Bombacaceae	Tree	Bark, gum seeds, roots, flowers,	Aphrodisiac, digestive disorders, pimples.
12	<i>Callicarpa arborea</i> Roxb.	Beauty berry	Thachisu	Verbenaceae	Shrub	Leaves, barks, stems	Rheumatism, carminative.
13	<i>Caryota urens</i> Linn.	Jaggery palm	Ayithobo	Arecaceae	Tree	Nuts and leaves	Seminal weakness, Hemicranias.
14	<i>Clerodendrum colebrookianum</i>	East Indian Glory Bower	Yenaniye	Verbenaceae	Shrub	Leaves	Antiseptic, tonic bronchitis, malaria.
15	<i>Clerodendrum serratum</i>	Blue fountain bush	Yenaniye	Verbenaceae	Shrub	Leaves, Shoots, roots	Fever, asthma and bronchitis.
16	<i>Colocasia esculenta</i> Linn. Schott	Elephant ear	Ayi	Araceae	Herb	Corms	Insect sting, cuts, burns.
17	<i>Costus speciosus</i> (J.Konig) Sm.	Crepe ginger	Akuwu xamunu	Costaceae	Herb	Rhizome	Purgative, Anthelmintic, rheumatism.
18	<i>Cyphomandra betacea</i> (Cav.) Sendt.	Tree tomato	Asu beghina	Solanaceae	Tree	Fruit	Sore throat, migraine, headache.
19	<i>Debregeasia longifolia</i> (Burm.F.) Wedd.	Wild rhea	Awukhunabo	Urticaceae	Tree	Fruits and barks	Shampoos, digestion.
20	<i>Dioscorea alata</i> Linn.	Asiatic yam	Achuchu	Dioscoreaceae	Climber	Tubers	Aphrodisiac, diuretic, diabetes.
21	<i>Dioscorea bulbifera</i> Linn.	Bitter yam	Achuchu	Dioscoreaceae	Climber	Tubers	Piles, dysentery.
22	<i>Dioscorea pentaphylla</i> Linn	Yam	Achuchu	Dioscoreaceae	Climber	Tubers	Arthritis, asthma, contraceptive.
23	<i>Elsholtzia blanda</i> Benth.	Lomba	Napa	Lamiaceae	Shrub	Whole plant	Kidney and bladder disorders. Diabetes.
24	<i>Entada scandens</i> (L.) Benth.	Nicker bean	Alawu	Leguminosae	Climber	Seeds	Anti-dandruff, burns.
25	<i>Eryngium foetidum</i> Linn.	Long coriander	Dunia	Apiaceae	Herb	Leaves	Jaundice, dropsy, diuretic.
26	<i>Eupatorium adenophorum</i> Spreng.	Croton weed	Japan lupi	Asteraceae	Shrub	Leaves	Antiseptic.
27	<i>Ficus racemose</i> Linn.	Cluster fig tree	Khughoiithi	Moraceae	Tree	Fruits, barks, latex, roots	Gastritis, diabetes, Leucoderma.
28	<i>Ficus semicordata</i> Buck-Ham. Ex Roxb.	Drooping fig	Chockoiithi	Moraceae	Tree	Fruits	Diarrhoea. Jaundice, Hepatitis.
29	<i>Fragaria indica</i> Linn.	Wild straw berry	Avi xathi	Rosaceae	Herb	Whole plant	Urinary tract, kidney, tonic.
30	<i>Fragaria nilgerrensis</i> Sch.	Coiled straw berry	Yevuithi	Rosaceae	Herb	Aerial parts	Eye drops, tonic.
31	<i>Hedychium coronarium</i> Koen.	White ginger lily	Akuwu Xamunu	Zingiberaceae	Herb	Seeds and rhizome	Carminative, stimulant.
32	<i>Hedychium spicatum</i> Buch. Ham.	Spike ginger lily	Akuwu Xamunu	Zingiberaceae	Herb	Rhizomes	Carminative, expectorant, stimulant, tonic.
33	<i>Hibiscus sabdariffa</i> Linn.	Rozelle	Yekhe	Malvaceae	Shrub	Flowers and leaves	Anti-hypertensive, mild laxative, stomach disorder.
34	<i>Hodgsonia heteroclite</i> (Roxb.) Hook.f.&Thomson	Oil nut	Taithi	Cucurbitaceae	Climber	Leaves and nuts	Fever, bacterial infections.
35	<i>Houttuynia cordata</i> Thunb.	Stink grass	Yetsuye	Saururaceae	Herb	Whole plant	Stomach-ache, cholera, dysentery.
36	<i>Iris ensata</i> Thunb.	Wild iris	Daslaboju xamunu	Iridaceae	Herb	Rhizomes	Earache, cholera,
37	<i>Juglans regia</i> Linn.	Common walnut	Ghakuthi	Juglandaceae	Tree	Leaves, bark and seeds.	Anthelmintic, Carminative, Aphrodisiac.
38	<i>Kaempferia rotunda</i> L.	Resurrection lily	Akuwu Xamunu	Zingiberaceae	Herb	Leaves and rhizome	Digestion, stomach-ache, anti-inflammatory.

List of medicinal plants and its uses by the Sumi tribe of Zunheboto district, Nagaland

Sl. No	Scientific name	Common name	Local name	Family	Habit	Part used	Uses
39	<i>Litsea citrate</i> Blume	Litsea	Anapobo	Leeaceae	Tree	Bark and seeds	Pain reliever, astringent, antiseptic.
40	<i>Livistona jenkinsiana</i> Griff.	Major Jenkins palm	Amsanibo	Arecaeae	Shrub	Fruits and seeds	Stomach ailments, buttons.
41	<i>Melastoma malabathricum</i> Linn.	Malabar melastome	Tughaloji shedu	Melastomataceae	Shrub	Leaves and flowers	Coagulation, pile problems.
42	<i>Myrica esculanta</i> Buch. Ham ex D. Don	Box myrtle	Khumboi xathi	Myricaceae	Tree	Bark and fruits	Astringent, Carminative, antiseptic.
43	<i>Paederia foetida</i> L.	Stink vine	Avanah	Rubiaceae	Herb	Roots	Pile problems. Chest pain.
44	<i>Paris polyphylla</i> Sm.	Herb paris	Aghalokii-ii	Trilliaceae	Herb	Rhizomes	Bronchitis, rheumatism, Aphrodisiac.
45	<i>Parkia roxburghii</i> G. Don.	Tree bean	Yongchak	Mimosaceae	Tree	Seeds	Diarrhoea, dysentery.
46	<i>Perilla frutescens</i> Linn.	Purple common perilla	Akini	Lamiaceae	Herb	Stem, leaves and seeds	Antidote, antiseptic, tonic.
47	<i>Plantago erosa</i> Wall.	Common plantain	Tiighakiitsuye	Plantaginaceae	Herb	Whole plant	Febrifuge, expectorant, toothache
48	<i>Psophocarpus tetragonolobus</i> (L.) D.C.	Winged bean	Char-kona	Fabaceae	Herb	Seeds	Cough.
49	<i>Rhus semialata</i> Murr.	Nutgall tree	Athumsii	Anacardiaceae	Tree	Fruits	Stomach-ache, food poisoning.
50	<i>Rubus ellipticus</i> Sm.	Golden evergreen rashberry	Sulithi	Rosaceae	Shrub	Roots and fruits	Decoction, stomach-ache.
51	<i>Schima wallichii</i> (DC.) Korth	Needle wood	Michhisu	Theaceae	Tree	Leaves, roots and bark	Anthelmintic, rubefacient, antipyretic.
52	<i>Solanum indicum</i> Linn.	Indian night shade	Khakhuti	Solanaceae	Herb	Roots and fruits	Asthma, dry cough, dropsy.
53	<i>Stixis suaveolens</i> Roxb.	Madhumalati	Kighiethi	Capparidaceae	Climber	Fruits	Cough, malaria.
54	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Beleric	Tapuxathi	Combretaceae	Tree	Seeds	Cough, sore throat, dropsy, pile problems.
55	<i>Urtica ardens</i> Blume	Stinging nettle	Apighii	Urticaceae	Herb	Leaves and roots.	Hepatitis, diarrhoea.
56	<i>Valeriana wallichii</i> DC.	Indian valerian	Hotakiye	Valerianaceae	Herb	Rhizomes and roots	Neurosis, epilepsy.
57	<i>Wedelia chinensis</i> (Osbeck) Merr.	Bhangara	Ghatsuye	Asteraceae	Herb	Whole plant	Tonic, increases blood pressure.
58	<i>Zanthoxylum acanthopodium</i> DC.	Lemon pepper tree	Angoshe	Rutaceae	Shrub	Leaves and fruits	Diarrhoea, fever, diabetes.
59	<i>Zanthoxylum armatum</i> DC.	Toothache tree	Nakiniye	Rutaceae	Shrub	Leaves and fruits	Fish poison, toothache.

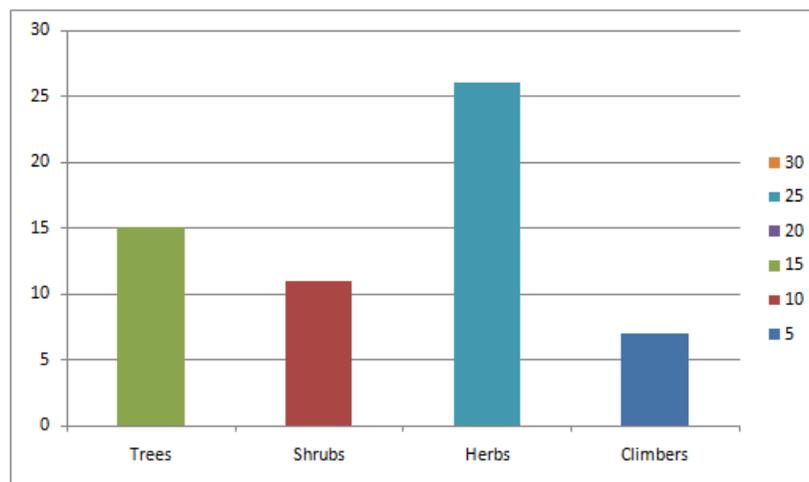


Fig.2. Bar diagram showing the uses of different medicinal plants

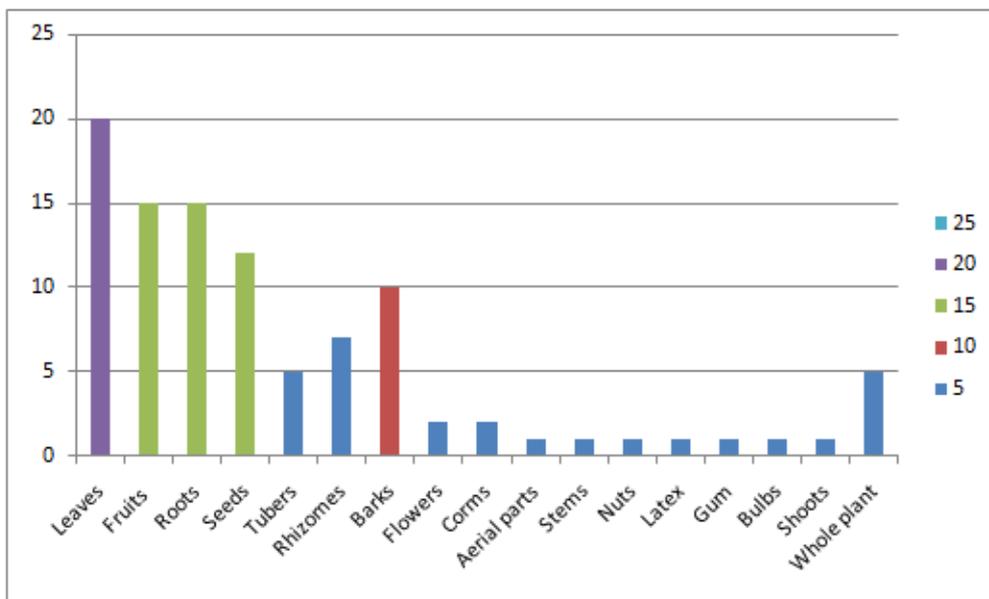


Fig.3. Bar diagram showing the used of different parts for medicinal purposes from medicinal plants

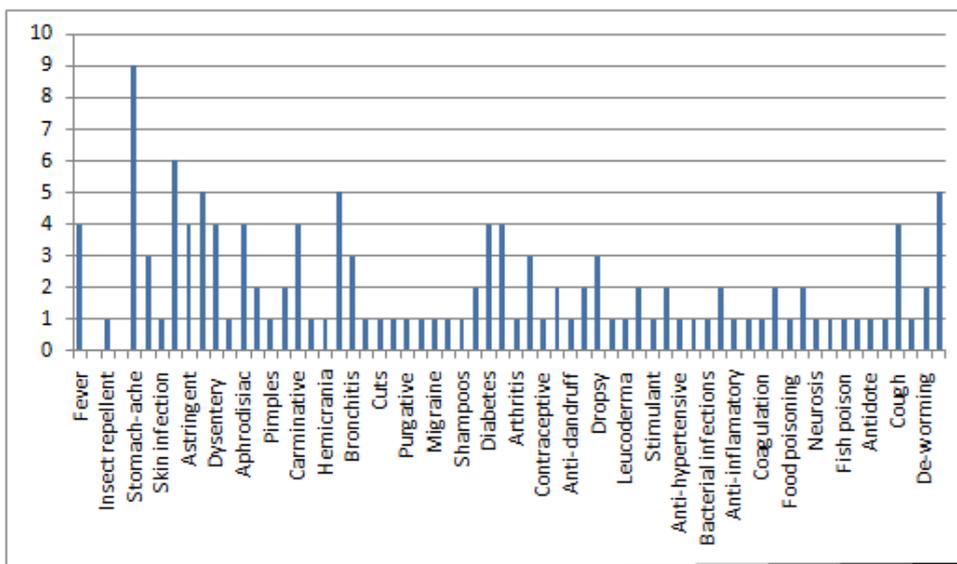


Fig.4. Bar diagram showing different ailments from the uses of medicinal plants

During the study period, it was observed that the herbs are the most important medicinal plants which are used in large number by the local people, followed by the trees, shrubs and climbers (Figure-2).

Almost all the plant parts are used as medicine by the local traditional healers and the parts used are the leaves followed by fruits, roots, seeds, tubers, rhizomes, barks, flowers, corms, gums, stems, nuts and latex (Figure- 3).

The medicinal plants are used to cure different ailments ranging from fever to de-worming. The maximum number of plants used for curing ailments are the stomach-ache, tonic, diarrhoea, anthelmintic, astringent, antiseptic to food poisoning (Figure-4).

DISCUSSION AND CONCLUSION

The use of medicinal plants by the *Sumi* tribes of Zunheboto district showed that herbs are more frequently used by the indigenous population at remote areas even within the district. With development and modernization taking place at a fast pace, the old traditional knowledge that have been so valuable guarded and practised once are now losing its place to the more reliable and trusted scientific approach associated with modern medicine. The younger generation do not favour the value placed by their ancestors about the herbal use in lesser common diseases like fever, stomach ache, sprains, minor injuries etc. However, the old traditional practices about the uses of medicinal plants still exist in the district and the medicinal plants used are found in the wild. The wild species of these medicinal plants are slowly declining due to rampant

destruction of forest, unsustainable exploitation and bio-piracy. Out of the total listed medicinal plants, 2 (two) species – *Paris polyphylla* (Herb paris) and *Valeriana wallichii* (Indian valerian) has been considered as most valuable in term of its uses and trade. Therefore, it is now felt that conservation and preservation of these species, creating awareness, developing proper protocol on the agronomics for cultivation of these medicinal plants and pharmacological studies is the need of the hour.

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