

Ethnomedicinal Uses of Plants from Kapurkot, Salyan District, Nepal

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Abstract

The present study aims to document the traditional knowledge of medicinal plants of Kapurkot rural municipality of Salyan District, Karnali province, Nepal. Ethno medicinal information was collected through interview with 40 respondents from Mulpani, Salyan District. Altogether 59 ethnomedicinal plant species are used for the remedies of different health ailments. Respondents of the age group 25-35 years were found actively participating in this survey. Zingiberaceae as well as the Lauraceae family were found to have the highest number of species used for ethno-medicinal purposes. On the basis of their habit, herb species are found to be highly dominated. The recorded 59 ethnomedicinal plants were used in the treatment of various diseases such as cuts and wounds, skin diseases, fever, cough, boils, burns, common cold, etc. From this study, mainly common cold and cough are mostly recovered ailments from medicinal plant species. The study is mainly based on the experienced knowledge and information which they gain from their elders, mainly from grandparents, which might pass from generation to generation. This current study reveals that *Zanthoxylum armatum* (Timur), *Cinnamomum tamala* (Tejpaat) and *Zingiber officinale* (Adhuwa) are respectively found to be highly traded medicinal plants of the study area. For the preservation of ethnomedicinal plants species as well as their traditional knowledge, different conservation activities should be practiced. Such gained information and knowledge should be passed from generation to generation and encourage them to preserve for sustainable use of traditional documentation.

Keywords: Documentation, Ethno medicine, Illness, Traditional knowledge

Introduction

From the establishment of human civilization, human beings depend on the plants and their products for their survival. Almost all daily human basic and luxurious requirements like feeding, clothing, sheltering, nursing and hunting are fulfilled by the plants. People started to get remedies of several health problems by using trial and error method. As they got the ideas of medicinal properties of plants, they started to follow such norms as traditional system. History of use of medicinal plants is believed to be as old as the history of humankind.

Ethno medicine is a set of empirical local practices on the basis of indigenous knowledge of the socio-group often transmitted orally from generation to generation (Bussmann & Sharon, 2006). The practice of ethno medicine is a complex multi-disciplinary system constituting the use of plants, spirituality and the natural environment and has been the source of healing for people for millennia (Puspahagandan, 2010). Ethnomedicinal information

is playing an important role for developing new scientifically validated and standardized drugs, i.e. both herbal and modern (Savnur, 1993). Knowledge of the natural world is typically a very important part of the knowledge-world of rural people following more traditional ways of life (Berlin, 1992). In the developing world, 70-80% of the population relies on plants for primary health care (World Health Organization [WHO], 2013). The use of plants as medicine is slowly increasing in the developed world because they have minor or no side effects (Bernal et al., 2011; Jordan et al., 2010).

Nepal is the shelter to a large number of medicinal plants which are used as major source of treatment for wide range of illness, especially in rural areas where allopathic treatment is not easily reached (Aryal & Thapa, 2019). Ethnomedicinal knowledge on plants resources has been constantly diminishing because of changing perception of the local people, increasing influence of global commercialization and socio-economic transformation (Gadgil et

al., 1993; Kunwar & Adhikari, 2005). This might be due to the development of modern allopathic medicinal science. Due to the lack of scientific harvesting, proper management techniques and lack of conservation awareness, the number of ethnomedicinal plant is decreasing (Kunwar & Duwadae, 2003). Hence the documentation as well as uses of the medicinal plants should be properly done for the upcoming generation and for this management and proper utilization of plant resources is the major needed. Regarding the field of applied plant research, Salyan district looks itself very less explored. In this context, this research mainly focused on the documentation of ethnomedicinal knowledge of Kapurkot area of Salyan district.

Materials and Methods

Study site

The study was carried out in Kapurkot rural municipality of Salyan district (Majority from ward

number 3). Kapurkot rural municipality is bounded by Chhatreshwori rural Municipality of Salyan, Dang, Rolpa and Tribeni rural municipality from north, southwest, east and northwest respectively (Figure 1).

The major ethnic groups are Chhetri, Magar, Brahmin, Dalit etc. According to census 2011, Salyan District had a population of 2,42,444. Khas Chhetris are the largest caste in the district making up 57% of the population, while Magars are the second largest group and make up 15.1% of the population. The district Salyan receives a moderate amount of precipitation. Summers are humid and mild; most precipitation occurs during monsoon season (July-September). Winters and spring skies are generally clear and sunny.

Data collection

A set of questionnaire was used for the data collection. Questionnaire was given to the each participant. The

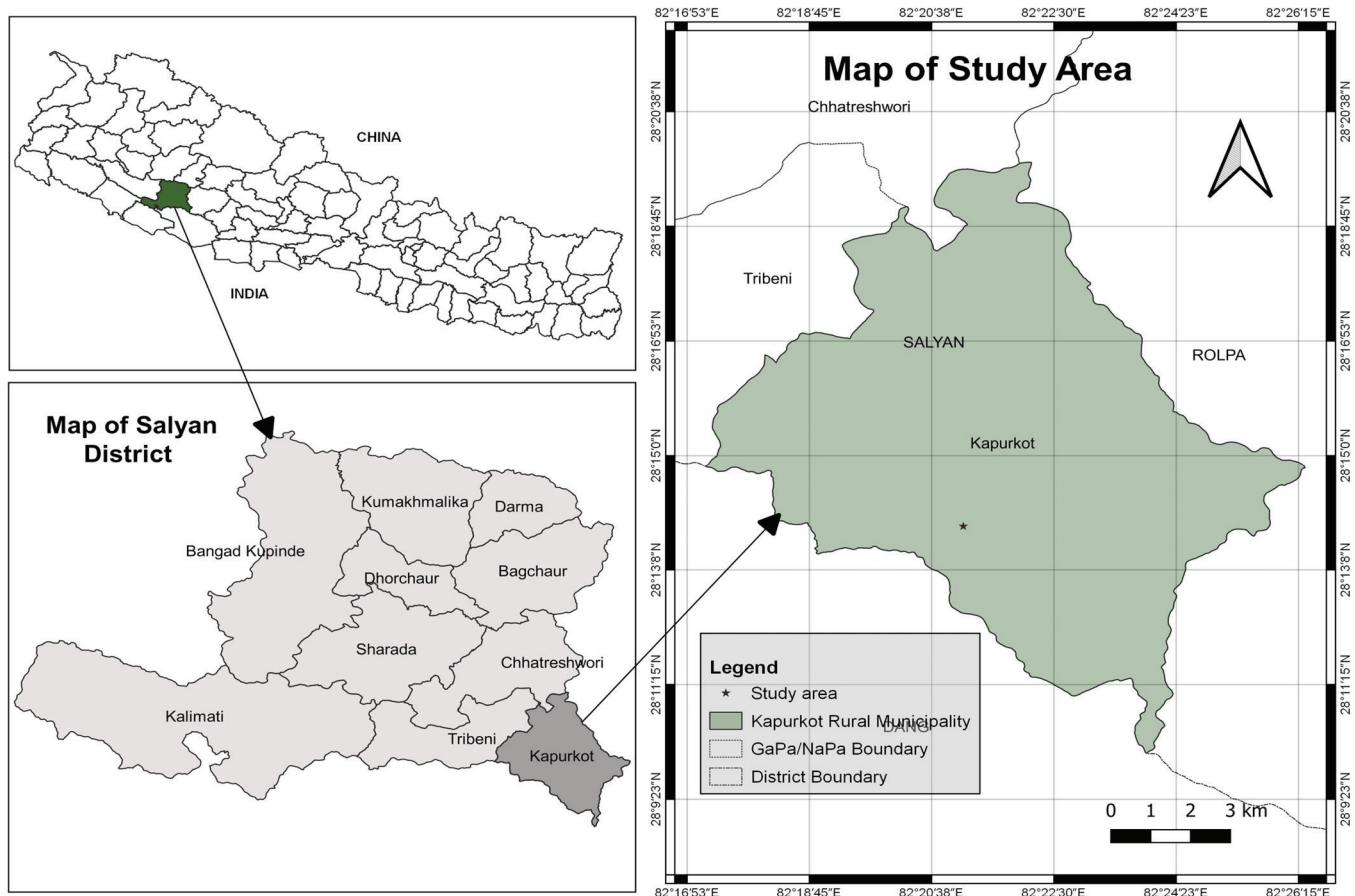


Figure 1: Map of study area

local or vernacular name of the plants, belonging illness, their using method, using parts and amount, source of traditional knowledge etc. were made clear from questionnaire. Respondents experienced knowledge and information were collected, data was analyzed which is the major finding of this study. Supplementary information was added through secondary sources (articles, review papers, published reports, booklets and books) related to ethno medicinal documentation from belonging area. For the present study, total 40 respondents from four age groups such as 15-24 (12), 25-34 (15), 35-49 (9) and 50-above (4) were consulted to document local knowledge. Mostly they were represented from Chhetri, Brahman, and few of them were from other ethnic groups like Magar, Dalits etc. The information about the mostly traded species was asked with key local traders and farmers.

Results and Discussion

Diversity of medicinal plant species

From the survey, a total of 59 plant species under 56 genera of 48 families used for the treatment of different diseases (Appendix). Among 48 families, Lauraceae and Zingiberaceae families are highly dominated with three species, followed by Asteraceae, Combretaceae, Lamiaceae, Orchidaceae, Poaceae, Rutaceae and Solanaceae with two species in each respectively. The higher number of species from Zingiberaceae and Lauraceae might be due to the natural habitat and domestication of more species from belonging families. Remaining families are representing only single species in each. The result was compared with previous studies. The number of species used as ethno medicinal purpose was about 77 % of previously reported total species from Salyan district (Kurmi & Baral 2004). This shows that there might be more species used for traditional treatment in the District if we focus on each ward and ethnic group.

Out of 59 total species found in this study, herb species was found to be highly dominated (24 spp.) followed by trees (20 spp.), shrubs (10 spp.), climbers (4 spp.) and epiphytes (1 sp.) respectively.

The recorded 59 ethno-medicinal plants were used in treatment of 11 diseases such as cuts and wounds, skin diseases, stone problem in kidney or gall bladder, fever, cough, boils, burns, common cold, jaundice, constipation, gastritis, asthma etc. Out of 59 species, 16 species were found to cure cold and cough, followed by fever (15 spp.), gastritis (9 spp.), stone and asthma (8 spp. in each), skin disease (7 spp.), constipation, jaundice and cancer (6 spp. in each) respectively.

To the respondents, in the set of questionnaire it was asked that in what amount they practice herbal medicine for the treatment of several health ailments. For that, most of the respondents answered that they practice little bit amount of ethno medicinal plants species for the treatment and none of the respondents answer that they practice only plants as traditional uses (Figure 2).

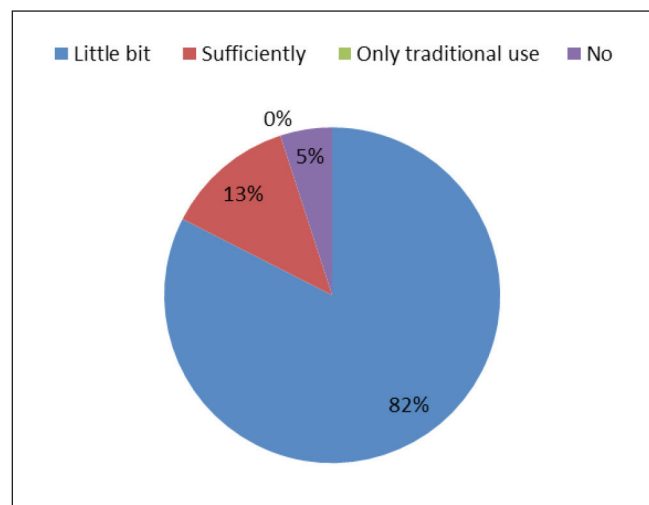


Figure 2: Herbal medicine practice in amount

From the survey, it was found that majority of the respondents (24) knew only about 5 to 10 medicinal plants. Very few respondents (4) had answered more than 20 medicinal plants for the regular traditional treatment purpose (Figure 3). It might be due to gap of knowledge transfer from elder generation and influence of modern medicine even in rural areas of the country.

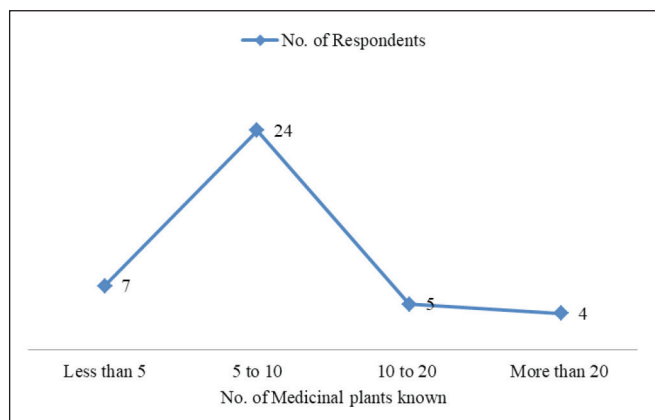


Figure 3: Showing numbers of respondents along with no. of species known

Traded medicinal plant species

The major medicinal plants species *Zanthoxylum armatum*, *Cinnamomum tamala*, *Zingiber officinale*, *Swertia chirata*, *Cinnamomum glaucescens*, *Cucurma domestica*, *Emblica officinalis*, *Tinospora cordifolia* and *Machilus odoratisima* were recorded from the respondents of which, Timur (*Zanthoxylum armatum*), Tejpaat (*Cinnamomum tamala*) and Aduwa (*Zingiber officinale*) were three major highly traded medicinal plants of the district (Figure 4). They also mentioned that trend of using plants as traditional uses have been decreasing day by day.

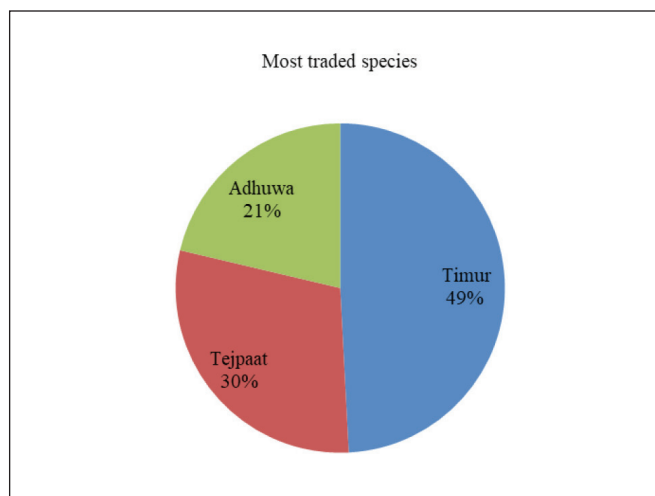


Figure 4: Major traded species along with number of species

The study is mainly based on the experienced knowledge and information which they gain it from their elder mainly from grandparents, which might passes from generation to generation. Mainly in this 21st century, modern technology also plays the vital

role. Most of the respondents response that only few people practiced traditional healers’ methods for ailment treatment. ‘Timur’ is found to be the most used medicinal plant species in the study area in daily life. Most of them also mentioned that firstly, they used medicinal plants from treatment and if they are not cured in few days then only they use allopathic medicines. It was also point out that their surrounding forest area has several medicinal plants species which they use less often. There are very few activities for the conservation of medicinal plants species in the study area. The community of the study area discovers several health ailments along with the medicinal plants species which was not mentioned earlier in the previous investigation from that area (District Plant Resources Office Salyan [DPROS], 2017; Kurmi & Baral, 2004).

Conclusion

Altogether, 59 species of ethnomedicinal plants were recorded from the study area. *Acorus calamus*, *Artemisia dubia*, *Cinnamomum tamala*, *Justicia adhatoda*, *Zanthoxylum armatum*, *Zingiber officinale* were the species used to heal common cold and cough. Majority of respondents were familiar at least 5-10 medicinal plants species which indicate that the study area is somehow depends upon traditional knowledge based treatment. For the preservation of medicinally important plants species as well as their traditional knowledge, we suggest that the different conservation activities should be practiced which was realized during the survey. Such information should be documented and such knowledge should be passed from generation to generation and encourage the upcoming generation for the preservation of traditional knowledge of medicinal plants and their further uses as allopathic medicine.

Author Contributions

Mitra Lal Pathak developed research concept and questionnaire. Pushpa Aryal drafted the manuscript. Govinda Sharma and Damodar Dahal assisted in the field research. First and second authors further found literature, analyzed data and prepared final manuscript. All authors read the manuscript.

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References

- Aryal, P., & Thapa, C. B. (2019). Ethno-medicinal uses of plants in Putali Bazar Municipality of Syangja district, Nepal. *Himalayan Biodiversity*, 7, 32-38.
- Berlin, B. (1992). *Ethnobiological classification*. Princeton University Press.
- Bernal, J., Mendiola, J. A., Ibáñez, E. & Cifuentes, A. (2011). Advanced analysis of nutraceuticals. *J. Pharm. Biomed. Anal.*, 55, 758-774.
- Bussmann, R. W., & Sharon, D. V. (2006). Traditional medicinal plant use in Northern Peru: Tracking two thousand years of healing culture. *Journal of Ethno biology and Ethno medicine*, 2, 47-10.
- District Plant Resources Office Salyan. (2017). Plant profile of Salyan district.
- Gadgil, M., Berkes, F. & Folke, C., (1993). Indigenous knowledge for biodiversity conservation. *Ambio*, 22,151-156.
- Jordan, S. A., Cunningham, D. G., & Marles, R. J. (2010). Assessment of herbal medicinal products: Challenges, and opportunities to increase the knowledge base for safety assessment. *Toxicol. Appl. Pharmacol.*, 243, 198-216.
- Kunwar, R. M., & Duwadae, N. P. S. (2003). Ethnobotanical note on flora of Khaptad National Park. *Himalayan Journal of Science*, 1, 25-30.
- Kunwar, R. M., & Adhikari, N. (2005). *Ethno-botany of Ficus (fig) species in Nepal*. International Botanical Congress.
- Kurmi, P. P., & Baral, S. R. (2004). Ethnomedicinal uses of plants from Salyan district, Nepal. *Banko Janakari*, 14(2), 35-39.
- Pushpagandan, G. (2010). Ethnomedicinal practices of rural & tribal population of India with special reference to the mother & childcare. *Indian Journal of Traditional Knowledge*, 9(1), 9-17.
- Savnur, H. C. (1993). *A Handbook of Ayurvedic Materia Medica* (Vol. 4). Dr. Jarthar & Sons.
- Thapa, C. B. (2011). Ethno-medicinal plants of Ganeshpur village, Syangja district, Nepal. *Himalayan Scientific Journal*, 4, 18-22.
- World Health Organization. (2013). *Factsheet 134: Traditional medicine*. <http://www.who.int/mediacentre/factsheets/2003/fs134/en/>

Appendix: List of 59 medicinal plant species mentioned by 40 respondents of Mulpani, Salyan District, and information of each species, family, local name, parts used, illness treated and mode of application

S.N.	Botanical Name	Family	Local Name	Habit	Parts used	Illness treated	Mode of application
1	<i>Acorus calamus</i> L.	Acoraceae	Bojho	H	Roots, stems, leaf	Cancer, diarrhea, dyspepsia, Cough, common cold, Constipation, Body pain	Rhizome chewing twice a day, dried powder with hot water, Steam treatment
2	<i>Aegle marmelos</i> (L.) Correa	Rutaceae	Bel	T	Fruit, leaf	Asthma, Fever, constipation	Juice, 1 tea glass daily
3	<i>Ageratina adenophora</i> (Spreng.) R. M. King & H. Rob.	Asteraceae	Bannaaraa	S	Leaf, stem	Cut and wounds	Juice or paste over cut as anticoagulant and cure
4	<i>Alnus nepalensis</i> D. Don	Betulaceae	Utis	T	Bark	Body pain	A glass of juice or decoction daily
5	<i>Aloe vera</i> (L.) Burm.f.	Asphodelaceae	Ghiukumari	H	Fleshy Leaf	High BP, Cholesterol, Burning, Gastritis, constipation, Skin disease, Hair problems, stone, piles	Jell over burn point and skin disease, 2 spoon jell daily
6	<i>Anomum subulatum</i> Roxb.	Zingiberaceae	Alainchi	H	Seeds, Capsule	Gastrointestinal disease, Dental problems, Rheumatism (Baath)	Consume seed
7	<i>Artemisia dubia</i> wall. ex Besser	Asteraceae	Tite pati	H	Stem, leaf, bark	Fever, common cold, cough	With lukewarm water
8	<i>Asparagus racemosus</i> Willd.	Asparagaceae	Kurilo	S	Spears, stem, tuber	Heart disease, Increase blood, mensuration problems, Cancer, Ulcer, Asthma, Diabetes, Increase milk production in pregnant women, Tonic, Stone	Consume as vegetable, a glass of root decoction, powder along with honey in hot water, a glass of juice along with fruit of <i>Smilax</i> per day
9	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Neem	T	Leaf	Fever, skin disease, hair pain, ear pain, Headache	Paste on forehead, half glass of juice or decoction per day for fever
10	<i>Berberis aristata</i> DC.	Berberidaceae	Chutro, Chauthra	S	Bark, stem, root	Stone, diarrhea, High blood pressure	Half glass of juice or decoction daily
11	<i>Bergenia ciliata</i> (Haw.) Sternb.	Saxifragaceae	Pakhanved, Silpu	H	Root, Stem, leaf	Stone, Fever, Increase immunity, Boiling wound	2 tea spoon powder with hot water, half tea glass juice daily
12	<i>Bombax ceiba</i> L.	Malvaceae	Simal	T	Fruit, bark	Constipation	A glass of bark juice
13	<i>Cannabis sativa</i> subsp. <i>indica</i> (Lam.) E. Small & Cronquist	Cannabaceae	Bhango	S	Leaf	Diabetes	A glass of a juice twice a day
14	<i>Centella asiatica</i> (L.) Urb.	Apiaceae	Ghodtapre	H	Whole plant	Increase Memory power, fever, Urine infection	A glass of decoction (25 ml juice twice a day), leaf chewing, soak the leaf and drink water, paste applied over forehead while fever
15	<i>Cinnamomum glaucescens</i> (Nees) Hand.-Mazz.	Lauraceae	Sugandhkoki l, malagedi	T	Root, fruit, bark, leaf	Stone, Pain killer,	Half glass juice per day
16	<i>Cinnamomum tamala</i> (Buch.-Ham.) T. Nees & Eberm.	Lauraceae	Tejpaat, Taji	T	Leaf, Barks	Stomach disorder, Flavoring food, Common cold, Cough	3 spoon concentrated juice from leaf or bark daily, adequate amount of leaf and bark in various dishes like pudding, meat, pulau, etc for flavor

S.N.	Botanical Name	Family	Local Name	Habit	Parts used	Illness treated	Mode of application
17	* <i>Crocus sativus</i> L.	Iridaceae	Keshar	H	Stigma	Asthma, Cough, Nerve disease, Pain killer	A spoon of Powder of female part with lukewarm water
18	<i>Curcuma longa</i> L.	Zingiberaceae	Besaar	H	Rhizome	Common cold, Cough, Fever, Body pain, Skin disease wounds, Stomach related disease	A glass of decoction along with ash per day, roast the rhizome, powder with hot water,
19	<i>Cuscuta reflexa</i> Roxb.	Convolvulaceae	Aakas beli	C	Stem, Root, Whole part	Epitipsy, Jaundice,	A glass of juice twice a day
20	<i>Cymbopogon citratus</i> (DC.) Stapf	Poaceae	Lemon grass	H	Leaf	Tonic	
21	<i>Cymbopogon winterianus</i> Jowitt ex Bor	Poaceae	Citronella	H	Aerial portion	Kills intestinal worms	
22	<i>Dactyloctenium aegyptium</i> (L.) Gaertn. (D. Don) Soó	Orchidaceae	Panchaunle	H	Root	Intestinal disorder, cuts and wounds	Root paste is externally applied as a poultice on cuts and wounds and extract is given in intestinal disorders.
23	<i>Dendrobium eriiflorum</i> Griff.	Orchidaceae	Sunakhari	E	Stem	Stone	2 tea spoon powder with hot water
24	<i>Dioscorea hamiltonii</i> Hook. f.	Dioscoraceae	Githa	C	Roots	Lice problem	Paste on hair daily for five days
25	<i>Diplonema butyracea</i> (Roxb.) H.J.Lam	Sapotaceae	Cheuree	T	Fruit, seed	Rheumatism	Fats obtained from seed is used as ointment in rheumatism
26	<i>Juglans regia</i> L.	Juglandaceae	Okhar	T	Fruit	Increases memory power	Consume fruit
27	<i>Jusiticia adhatoda</i> L.	Acanthaceae	Asuro	S	Leaf, young shoot	Common cold, Cough, fever	A glass of decoction, steam treatment
28	<i>Kalanchoe pinnata</i> (Lam.) Pers.	Crassulaceae	Ajammaree, pathhar chatta	H	Leaf	Stone	A glass of decoction
29	<i>Lilium wallichianum</i> var. <i>wallichianum</i> J. A. & J. H. Schult.	Liliaceae	Ban lasun	H	Rhizome	Gastritis	1-2 Roasted rhizome per day
30	<i>Machilus odoratissimus</i> Nees	Lauraceae	Kaaulo	T	Bark	Bone fracture, stomach pain, diarrhea	20 Grams of crude bark eaten as crude for constipation, paste over fracture region.
31	<i>Mangifera indica</i> L.	Anacardiaceae	Aanp	T	Leaf, bark, root	Stomach pain, common cold	A glass of juice twice a day
32	<i>Mentha spicata</i> L.	Lamiaceae	Pudina, Baasmati	H	Whole plant	Jaundice, digestion	Half glass of juice per day paste, steam of oil with hot water twice a day
33	<i>Moringa oleifera</i> Lam.	Moringaceae	Shobhaanjan, Mungaa, Sitalchini	T	Root, Leaf, Fruit	Skin disease	A glass of Root decoction per day, chewing leaves and eat fruits which are rich in vitamin A & C
34	<i>Myrica esculenta</i> Buch.-Ham. ex. D. Don	Myricaceae	Kaafal	T	Bark	Gastritis, body pain, diarrhea	A glass of bark juice per day

S.N.	Botanical Name	Family	Local Name	Habit	Parts used	Illness treated	Mode of application
35	<i>Nardostachys jatamansi</i> (D. Don) DC.	Caprifoliaceae	Jatamasi	H	Rhizome, roots	Hysteria, Cardiac tonic	A glass of infusion of rhizome and roots
36	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Tulasi	H	Flower and leaf	Common cold, fever and cough	A glass of decoction with turmeric and bambari twice a day
37	<i>Ophiocordyceps sinensis</i> (Berk.) G.H. Sung, J.M. Sung, Hywel-Jones & Spatafora	Ophiocordycipitaceae	Yarshagumba	H	Entire fungal body including caterpillar	Sexual dysfunction, Asthma, stomach hack	One piece of it with milk can relief stomach hack and used as a high quality nutritious vitamin.
38	<i>Opuntia monacanthos</i> (Willd.) Haw.	Cactaceae	Seudi	H	Stem	Joint pain	Apply Stem juice to joint pain
39	<i>Phyllanthus emblica</i> L.	Phyllanthaceae	Amala	T	Fruit, bark and leaf	Jaundice, Dyspepsia, Cough, Lungs and Kidney disease, Gastritis, Tooth disease, improve eye vision, skin disease, Asthma, Heart Problem, weight loss	A glass of juice twice a day, fruit paste mixed with honey
40	<i>Pinus roxburghii</i> Sarg.	Pinaceae	Khote sallo	T	Leaf, stem	Cancer	A glass of decoction
41	<i>Piper nigrum</i> L.	Piperaceae	Marich	C	Fruit	Common cold, cough	Drink as tea flavoring
42	* <i>Psidium guajava</i> L.	Myrtaceae	Amba, Belautee	T	Leaf	Fever, common cold, stomach disorder	A glass of decoction along with leaf of citrus, tulasi, turmeric and juhana twice a day
43	<i>Rauwolfia serpentina</i> (L.) Benth. ex Kurz	Apocynaceae	Sarpagandha	S	Root	Reduce blood pressure	A glass of root decoction
44	<i>Rhododendron arboreum</i> Sm.	Ericaceae	Laligurans	T	Flower	Stomach related diseases, dysentery, to remove meat, fish bone stock in throat	A glass of juice twice a day
45	<i>Rubus ellipticus</i> Sm.	Rosaceae	Ainselu	S	Roots	Jaundice, Diarrhea	A glass of decoction twice a day
46	<i>Sapindus mukorossi</i> Gaertn.	Sapindaceae	Ritthaa	T	Fruit	Gastritis (Emetic)	Half glass of juice for emetic
47	<i>Senegalia catechu</i> (L.f.) P.J.H.Hueter & Mabb	Fabaceae	Khayer	T	Stem, bark	Body pain, Common cold, Cough,	A glass of decoction
48	<i>Solanum americanum</i> Mill.	Solanaceae	Kaalo bihin	H	Entire plant	Liver cirrhosis, Tonic, heart disease	Decoction of leaves, Berries as fruit
49	<i>Swertia chirayita</i> (Roxb.) H. Karst.	Gentianaceae	Chiraito, tite	H	Whole plant	Piles, Ulcer, diabetes, fever, Cancer, Common cold	20 ml of decoction twice a day for fever, Cold and other diseases
50	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	Barro, Barlo	T	Fruit	Gastritis and Constipation, Common cold, Cough	Half glass of decoction per day of a tea spoon powder with hot water twice a day
51	<i>Terminalia chebula</i> Retz.	Combretaceae	Harro, Harlo	T	Fruit	Gastritis and constipation, common cold, cough	A fruit chewing per day or a tea spoon powder with hot water
52	<i>Thalictrum rotundifolium</i> DC.	Ranunculaceae	Pyal jaro,	H	Root	Jaundice	A glass of juice or decoction twice a

S.N.	Botanical Name	Family	Local Name	Habit	Parts used	Illness treated	Mode of application
53	<i>Tinospora sinensis</i> (Lour.) Merr.	Menispermaceae	Daam pate Gujo	C	Stem, fruits, leaf, bark	Jaundice, fever, anemia, cancer, vomiting, piles, skin diseases, asthma, cough, diabetes, covid 19, ulcer, weight loss	day A glass of a juice per day
54	<i>Urtica dioica</i> L.	Urticaceae	Sisnu	S	Leaf, Root	Gastritis, Kidney related disease	A glass of juice or decoction per day, also eaten as a vegetable
55	<i>Valeriana jatamansi</i> Jones	Caprifoliaceae	Sugandhaba, Samayo	H	Rhizome, roots	Anxiety, Joints pain, Stone	Half glass of juice twice a day, Application of paste on affected area for aching
56	<i>Viscum album</i> L.	Viscaceae	Hadc hur	S	Whole plant	Aching limbs, Fracture	Application of paste on affected area for aching limbs and fracture
57	* <i>Withania somnifera</i> (L.) Dunal	Solanaceae	Aswaghanda	H	Whole plant	Arthritis, Cancer	Bruised leaves and ground roots are locally applied to painful swellings, carbuncles, and cancers
58	<i>Zanthoxylum armatum</i> DC.	Rutaceae	Timur	S	Fruit	Fever, Common cold, Cough, Gastric, Toothache, Altitude sickness, Leech killing, Pneumonia	One or two seed bark putting at the aching teeth, half glass of decoction per day for common cold and gastritis
59	* <i>Zingiber officinale</i> Roscoe	Zingiberaceae	Aduwa	H	Rhizome	Common cold, Cough, Flu, Asthma, Joints pain	Half glass of juice per day for joints pain, dry rhizome chewing thrice a day for cough cold, Flu and Asthma

Note: * = cultivated species