International Journal of Theoretical & Applied Sciences, **18**(1): 29-37(2026)

ISSN No. (Print): 0975-1718
ISSN No. (Online): 2249-3247

Study on Ethnomedicinal Flowering Plants of Khajjiar Region, Distt Chamba, Himachal Pradesh of Western Himalaya

Arun Kumar[1*], Gulshan Kumar[2] and Hem Chander[3]
[1]Research Scholar, Division Botany, Department of Bio Sciences, Career Point University, Hamirpur (Himachal Pradesh), India.
[2]Assistant Professor, Division Botany, Department of Bio Sciences, Career Point University, Hamirpur (Himachal Pradesh), India.
[3]Guide, Division Botany, Department of Bio Sciences, Career Point University, Hamirpur (Himachal Pradesh), India.

(Corresponding author: Arun Kumar)*
(Received 07 November 2025, Revised 30 December 2025, Accepted 26 January 2026)
(Published by Research Trend, Website: www.researchtrend.net)

DOI: https://doi.org/10.65041/IJTAS.2026.18.1.5

ABSTRACT: Indian Himalayan region (IHR) is one amongst the thirty-eight biodiversity hotspots of World and Himachal Pradesh, a part of North Western Himalaya, having high species richness and diverse community structure. Local people residing in these regions use diversity of endemic plants for treatment of different diseases since hundreds of years back. In Himachal Pradesh, Chamba district is also having wealth of medicinal plants which are used by local people. But this traditional knowledge of ethnomedicinal plants is not transferred to next generations. To bridge this gap present study is carried out in the adjoining villages of Khajjiar for documenting different flowering ethnomedicinal plants. In this study documented 53 plants belongs to 35 families. Most of the plants belongs to families Rosaceae (4 species) and Rutaceae (4 species) followed by families Fabaceae (3 species), Lamiaceae (3 species), Polygonaceae (3 species), Asteraceae (3 species) and then Amaranthaceae (2 species), Amaryllidaceae (2 species), Labiateae (2 species) and remaining families having single species documented. Mostly used plant parts are Leaves (62.26%), followed by roots (22.64%), stem (13.20%), fruits (13.20%), Bark (9.43%), Flowers (9.43%), Seeds (3.77%) and in some cases people also use plant sap (1.88%). UV of different documented plants indicates that some plants are very commonly identified and used by local people, but some plants are known by few. So documentation of some medicinal plants along with their uses help in sharing of this traditional knowledge with new generations. This study also helps in finding the plants having for future potential drugs.

Keywords: Ethnomedicine, Endemic, Biodiversity hotspots.

INTRODUCTION

Himalaya is one of the most astounding natural region of earth. The Himalayan region is having youngest mountains, globally known for its vast biodiversity, and harboring great wealth of medicinal plants (Shrestha, 2005). A large proportion of the world's population depends on traditional medicines to meet its needs. According to estimates, the proportion of the world's population using traditional medicines ranges between 70 and 80% (Maikhuri *et al.*, 2005). There are millions of people living inside Himalayan region and uses huge number of plant species for their therapeutic properties and reputed as centre of vast ethnomedicinal flora (Malik *et al.*, 2015; Basant and Chaurasia 2009). Indian Himalayan region (IHR) is one amongst the thirty-eight biodiversity hotspots of World (Chander and Kumar 2020). In the Indian Himalayan Region, most of the people live in villages and use plants as medicine, edible/food, fodder, fuel, timber, making agricultural tools and various other purposes (Samant & Dhar 1997).

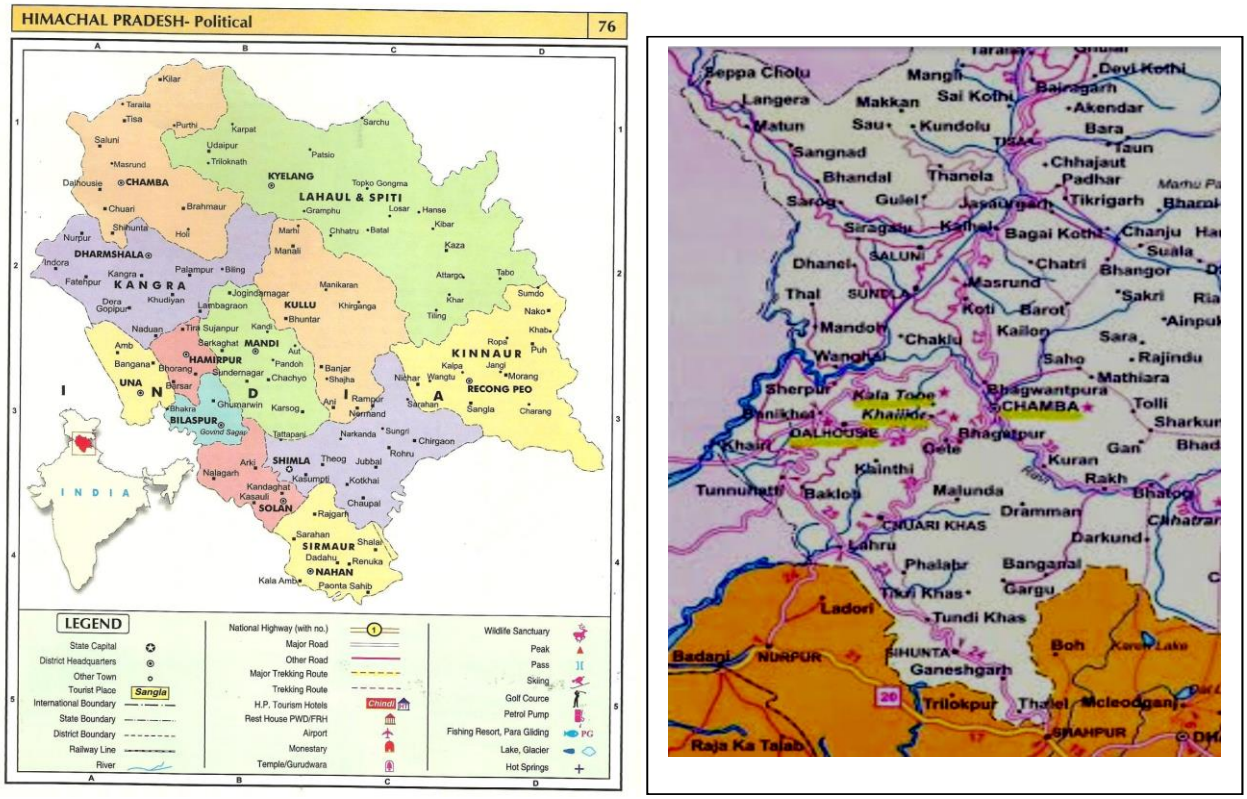
The State Himachal Pradesh, a part of North Western Himalaya, having high species richness and diverse community structure make Himachal Pradesh as one of the most fascinating reservoirs of floral diversity in the Himalaya. Different researcher explore floristic diversity of Himachal Pradesh (Singh & Rawat 2000; Verma *et al.*, 2003 a&b, 2005, 2006; Kaur & Sharma 2004; Rawat & Singh, 2006; Samant & Pant 2006;

Subramani *et al.*, 2007; Chauhan *et al.* 2014; Thakur and Sarika 2016; Jistu *et al.*, 2021; Sharma *et al.*, 2024).

Chamba district in Himachal Pradesh is one of biodiversity rich district where large number of peoples residing in the remote villages and uses large number of medicinal plants to treat different types of ailments since many years. In the past some researchers work on the medicinal plants of Chamba district (Rani and Rana 2014; Thakur *et al.*, 2016; Kumar *et al.*, 2019; Thakur *et al.*, 2020). Review of literature shows that lots of ethnobotanical work has been done in Kalatop area, but very less ethnobotanical work is done in the villages around Khajjiar as large number of tribal people residing in these villages which make use of local plants for various purposes. So in the present work a study of floristic diversity of ethnomedicinal plants had carried out in the villages outside Khajjiar wild life sanctuary.

MATERIALS AND METHODS

Study area: Present study was carried out in Khajjiar and its adjoining villages of District Chamba, Himachal Pradesh during 2022-2025. The study area is located in Western part of Chamba District, it lies in the catchments of Ravi River. It is one of the oldest preserved forests of the State (notified on 01.07.1949), which lies between 32° 26´ North Latitude; 76° 32´ East Longitude and the altitude varies from 1850-2750 m (Fig. 1). Study area is dominated by forest containing *Cedrus deodara*, *Picea smithiana*, *Quercus macrophylla* and *Pinus roxburghii* as dominant species.



Source: https://www.mapsofindia.com

Fig. 1. Map of Study area showing Khajjiar and its adjoining villages.

Field survey: The frequent field survey was carried out in the different months of year in Khajjiar and its adjoining areas. The plants used by the folk peoples for treatment of various diseases were documented by using structured questionnaire, interviews and discussions among the folk people (Jain, 1987). A group of 40 local people of different age groups and educational qualification was taken to the field and specimen of ethno botanically important plants were collected along with photographs in their natural habitats. Each informant was asked to consent verbally to take part in the study so as to follow the ISE (International Society of Ethno biology) code of ethics. The collected specimens had been dried and pressed in plant presser for 12 to 14 hours. Individual specimen with in blotters was kept between corrugated sheets. The collected plant species were dried and preserved by making herbarium (Jain and Rao 1967).

The ethnobotanical statistics were evaluated with the help of **Use value (UV):** The relative significance of each plants species known locally to be used as herbal remedy is shown as the use value (UV) and it was calculated by using the following formula (Phillips *et al*., 1994).

$$UV = \Sigma U / n$$

Where UV is the use value of a species, U is the number of use information mentioned by each informant for a given plant species and n is the total number of informants questioned for a given plant. The UV is helpful in finding the plants with the maximum use (most frequently indicated) in the treatment of a disease. UVs are high when there are numerous use reports for a plant and low when there are a few reports associated to its use.

Informant Consensus Factor (F_{ic}): The informant consensus factor (F_{ic}) was calculated towards checking, there is an agreement in the use of plants in the illness categories among the plant users in the study area. The F_{ic} was be calculated by the following formula (Heinrich *et al*., 1998).

$$F_{ic} = N_{ur} - N_t / (N_{ur} - 1)$$

Where N_{ur} denotes to the number of use-reports for a specific disease group and N_t refers to the quantity of plant species used for a particular disease group by all informants. The product of this factor ranges from 0 to 1.

RESULT AND DISCUSSION

In the present study 53 species of medicinal plants belongs to 35 families are documented. The collected plants having medicinal value (Fig. 3) are enlisted in the Table 1. Containing use value (UV) also. Most of the plants belongs to families Rosaceae (4 species) and Rutaceae (4 species) followed by families Fabaceae (3 species), Lamiaceae (3 species), Polygonaceae (3 species), Asteraceae (3 species) and then Amaranthaceae (2 species), Amaryllidaceae (2 species), Labiateae (2 species) and remaining families having single species documented. The species documented in this study is also comparable with species identified by Singh and Sharma (2006) worked on the floristic diversity of Chamba. Flora of Chamba is a documentation of 1005 species of seed plants (angiosperms & gymnosperms) belonging to 545 genera and 133 families. Some of the species found in this species were also documented by Dutt *et al.* (2011); Gupta (2011) while working on the floristic diversity of Bharmour in Chamba. The plants are collected from different altitudes, so having different adoptive characters. Most of the plants collected grows in the wild habitats and identified by elderly peoples as well as local healers.

Local peoples mostly use herbs (53%) for making various medicinal preparations but also use shrubs (25%) and trees (22%) (Fig. 4). Herbs grow well in the shady places and trees used for medicinal purposes ranging from medium size to large trees. As the result indicates that mostly used plant parts are Leaves (62.26%), followed by roots (22.64%), stem (13.20%), fruits (13.20%), Bark (9.43%), Flowers (9.43%), Seeds (3.77%) and in some cases people also use plant sap (1.88%) (Fig. 5). Most of the preparations are prepared by the local peoples are in the water and does not cause any harm to the body.

Use value (UV) of plant species like *Citrus aurantium* L. (0.80), *Begonia picta* Sm.(0.80), *Juglans regia* Linn (0.78), *Allium sativum* L.(0.75), *Allium cepa* L (0.73) are having maximum value whereas *Ficus carica* L. (0.05), *Solanum nigrum* L. (0.10), *Fragaria vesca* L. (0.12) are having least use values. Plants like *Ajuga bracteosa* Wall. ex. Benth, *Asparagus adscendence* Roxb., *Brassica campestris* L., *Cannabis sativa* L., *Indigofera heterantha* Wall.ex Brandis, *Taraxacum officinalis* Wig, *Zanthoxylum aromaticum* DC, *Amaranthus spinosus* Linn, *Ocimum sanctum* L., *Viola canescens* Wall.ex Roxb having UV ranging between 61 to 70. Whereas *Artemisia japonica* Thumb, *Citrus maxima* (Burm.) Merr., *Rosa macrophylla* Lindl., *Vitex negundo* L. having UV between 50 to 60. UV of different documented plants indicates that plants having high use value are used by maximum peoples and easily identified by them whereas the plants having low use value indicates that these plants are used by only some peoples in the village and also identified by them. Use value of documented plants also indicates that the transfer of traditional knowledge of using medicinal plants to next generation is low for those species which have very low use values. The present study also reveals ethnobotanical uses of some plants which were also reported by Kumar *et al.* (2019) working on diversity, distribution and utilization pattern of medicinal plants in Kalatop-Khajjiar Wildlife Sanctuary of Chamba district and recorded 239 medicinal plants

(19 trees, 38 shrubs, 173 herbs and 09 ferns) belonging to 185 genera and 85 families.

After the analysis of Informant Consensus Factor (F_{ic}), it is found that Highest value of F_{ic} is 0.98 for oral hygiene followed by 0.97 for respiratory disorders, 0.94 for poisoning, 0.93 for dermatological problems, 0.92 for gastrointestinal disorders, 0.91 for inflammation, 0.90 for urinary tract infections, 0.89 for fever and physical pain, 0.86 for blood related problems and least value is 0.81 for reproductive disorders (Table 2). Highest value of F_{ic} for oral hygiene, poisoning, respiratory disorders, dermatological problems, gastrointestinal disorders indicates that the knowledge of use of specific plant species for the treatment of specific illness is well spread among the informants and also got transferred from one generation to next and least value indicates that the knowledge of use of specific plant species for the treatment of specific disease is less transferred among the informants.

Table 1: List of Ethnomedicinal Plants.

Sr. No.	Botanical Name	Family	Local Name	Habit	Part(s) used	Disease/Ailment Treated (no of informants')	UV
1.	*Acer cappadocicum* Gled.	Sapindaceae	Kanjura	Tree	Bark,Leaves, Sap	Diarrhea (5), dysentery (7), wounds &cuts (10), anti-inflammatory (4), weakness (2)	**0.70**
2.	*Achyranthes aspara* L.	Amaranthaceae	Puthknda	Herb	Whole Plant	Abdominal pain (7), Kidney stone (4) and Skin problems (13).	0.60
3.	*Acorus calamus* Linn.	Acoraceae	Baach	Herb	Rhizome	Cough(3), cold (10), asthma (6), bronchitis (10), indigestion and flatulence (2)	**0.77**
4.	*Ajuga bracteosa* Wall. ex. Benth	Labiateae	Neelkanthi	Herb	Leaves, Roots	Headache (16), Bites of insects (10).	0.65
5.	*Amaranthus spinosus* Linn.	Amaranthaceae	Chaulai	Herb	Leaves, Roots and Seeds	Anaemia (5), fever (3), boils (14), burns, and wounds (3), urinary problems (2), jaundice (1)	**0.70**
6.	*Arisaema dracontium* (L.) Schatt.	Araceae	Sarp booti	Herb	Tuber	Rheumatism & joint pain (8), asthma (6), swellings (4)	**0.45**
7.	*Allium cepa* L.	Amaryllidaceae	Pyaz	Herb	Bulb and Leaves	Skin infections (8), Ear pain (15), Cough & cold (6)	**0.73**
8.	*Allium sativum* L.	Amaryllidaceae	Lahsun	Herb	Bulb and Leaves	Heart disease (5), Cough & Cold (25)	**0.75**
9.	*Artemisia japonica* Thumb.	Asteraceae	Chaimber	Herb	Leaves	Cuts (4),Skin infections (7), intestinal worms (8), menstrual problems (4)	**0.56**
10.	*Agrimonia pilosa* Ledeb.	Rosaceae	Van Booti	Herb	Leaves	Liver ailments & jaundice (12)	**0.30**
11.	*Ajuga bracteosa* Wall. ex. Benth	Labiateae	Neelkanthi	Herb	Leaves, Roots	Headache (16), Bites of insects (10).	0.65
12.	*Asparagus adscendence* Roxb.	Asparagaceae	Sanserpali	Shrub	Roots	Nausea (4), Vomiting (8), Headache (10) and Aphrodisiac (4).	0.65
13.	*Bauhinia variegata* L.	Ceaslpiniaceae	Karyale	Tree	Flower	Stomach Problem like indigestion (5).	0.12
14.	*Begonia picta* Sm.	Begoniaceae	Pather chatt	Herb	Leaves and Rhizomes	Gall bladder stones (32)	0.80
15.	*Berberis aristata* DC.	Berberidaceae	Kemru	Shrub	Roots	Eye infection (9).	0.22
16.	*Bergenia ligulata* (Wall.) Engl.	Saxifragaceae	Pashanbhed	Herb	Rhizomes	Kidney stones & urinary calculi (18)	0.45
17.	*Brassica campestris* L.	Brassicaceae	Rai	Herb	Seeds, Leaves	body pain & joint stiffness (24),	0.60
18.	*Bupleurum dalhousieanum* C.B.Clarke	Apiaceae	Bhooti Jad	Herb	Roots	Blood purifier (4), Stomach ache (9)	0.33
19.	*Cannabis sativa* L.	Cannabaceae	Bhang	Shrub	Leaves	Insect stings (27).	0.67
20.	*Cassia fistula* L.	Fabaceae	Girda	Tree	Fruit, Bark, Leaves, Flowers	Constipation (12), Ulcer (6), Eczema (1)	0.45
21.	*Centella asiatica* (L.) Urb.	Apiaceae	Brahmi booty	Herb	Leaves	Blood purifier (16), Memory improver (13)	0.73
22.	*Citrus aurantium* L.	Rutaceae	Jhamirdi	Tree	Fruits	Digestion & appetite (30), blood purifier (2)	0.80
23.	*Citrus maxima* (Burm.) Merr.	Rutaceae	Chakotra	Tree	Fruits	Digestion & appetite (22)	0.55
24.	*Cotoneaster microphyllus* Lindl	Rosaceae	Kadhor	Shrub	Fruits	Skin against irritation (7).	0.17
25.	*Cynodon dactylon* (L.) Pers.	Poaceae	Drub	Herb	Leaves	fever (10) and urinary disorders (4).	0.26
26.	*Ficus carica* L.	Moraceae	Anjir	Tree	Leaves	Tuberculosis (2).	0.05
27.	*Fragaria vesca* L.	Rosaceae	Bubal	Herb	Fruits, Roots	Dysentery (5).	0.12
28.	*Fumaria indica* L.	Fumariaceae	Pithpapra	Herb	Leaves	Fever (8), Vomiting (3), Jaundice (6).	0.42

29.	*Indigofera heterantha Wall.ex Brandis*	Fabaceae	Kathi	Shrub	Leaves, Roots, Bark	Anti-inflammatory (7), Fever (8), Blood purifier (11)	0.65
30.	*Juglans regia* Linn	Juglandaceae	Akhrot	Tree	Leaves , Bark	Teeth cleaning and Gum problems (31).	0.78
31.	*Jurinea macrocephala* DC.	Asteraceae	Guggal	Herb	Leaves, Roots	Fever (11).	0.27
32.	*Litsea monopetala* Roxb.ex Baker	Lauraceae	Gwa	Tree	Leaves	Arthritis (6).	0.15
33.	*Mallotus philippensis* Muell.	Euphorbiaceae	Kamala	Tree	Fruits , Bark	Aphrodisiac (4), Bile (2) and Ulcer related problems (3).	0.22
34.	*Mentha longifolia* L.	Lamiaceae	Pudina	Herb	Roots, Leaves	Piles (6), Vomiting (3), Dysentery (4), Stomachache (2) and Headache (1).	0.40
35.	*Murraya koenigii* L.	Rutaceae	Gandhelu	Shrub	Leaves	Obesity (6).	0.15
36.	*Ocimum sanctum* L.	Lamiaceae	Tulsi	Herb	Leaves	Cold (11) and Cough (17).	0.70
37.	*Oxalis articulata* L.	Oxalidaceae	Amlodi	Herb	Leaves	Fever (4), Boils (2), Dysentery (8) and increase appetite (1).	0.37
38.	*Persicaria capitata* L.	Polygonaceae	Ratnyaule	Herb	Leaves	Urinary tract infections (8).	0.20
39.	*Phyllanthus emblica* L.	Euphorbiaceae	Ambla	Tree	Fruits	Hairs fall and Dandruff (28).	0.70
40.	*Ranunculus muricatus* DC.	Ranunculaceae	Gudi	Shrub	Leaves	Cuts (5), Wounds (4).	0.23
41.	*Rhododendron arboreum* Sm.	Ericaceae	Buransh	Tree	Leaves, Flowers	Diabetes (10), Piles (26).	0.45
42.	*Rosa macrophylla* Lindl.	Rosaceae	Gulabri	Shrub	Flowers	Cold (10), Cough (12).	0.55
43.	*Rumex dentatus* Wall.	Polygonaceae	Jangli Palak	Herb	Roots	Against any type of poison (5).	0.12
44.	*Rumex hastatus* Link	Polygonaceae	Khatimithi	Herb	Leaves	Stomach aches due to gas (9).	0.22
45.	*Solanum nigrum* L.	Solanaceae	Makoi	Herb	Leaves	Dysentery (4)	0.10
46.	*Taraxacum officinalis* Wig.	Asteraceae	Dudhi	Herb	Leaves	Bandage on cuts (13), Fever (5), Headache (7).	0.63
47.	*Tinospora cordifolia* Miers	Menispermaceae	Gloe	Shrub	Stem	Jaundice (11), Constipation (2).	0.33
48.	*Verbascum thapsus* L.	Scrophulariaceae	Gaddi tamakhu	Herb	Leaves, Flowers	Asthma (6).	0.15
49.	*Viburnum bodnantense* L.	Caprifoliaceae	Laklu	Shrub	Leaves	Blood purifier (4).	0.10
50.	*Viola canescens* Wall.ex Roxb	Violaceae	Vanksha	Herb	Flowers	Cough (19), Asthma (3), Fever (6).	0.70
51.	*Vitex negundo* L.	Lamiaceae	Bana	Shrub	Leaves	Cold (5), Cough (3), Fever (3), Body swelling (12)	0.58
52.	*Yucca gloriosa* L.	Asparagaceae	Dagger	Shrub	Roots, Leaves	Blood purifier (4), Skin infections (8)	0.30
53.	*Zanthoxylum aromaticum* DC	Rutaceae	Tirmira	Shrub	Stem	Clean the teeth (17), Gum problems (9).	0.64

Table 2: Informant Consensus Factor (ICF) for different category of diseases.

Sr. No.	Category of Diseases	Use citations (Nur)	No. of species (Nt)	F_{ic} Value
1.	**Poisoning:** wasp stings, ant biting, bee stings	57	4	0.94
2.	**Reproductive disorders:** sexual abnormality, infertility, menstrual problems	12	3	0.81
3.	**Urological disorders:** Kidney stones, diuretic	32	4	0.90
4.	**Inflammation:** Arthritis, inflammation, joint pain	49	5	0.91
5.	**Gastrointestinal problems:** indigestion, gastritis, pile, constipation, intestinal warms	148	12	0.92
6.	**Respiratory disorders:** cold, cough, asthma, throat infections	138	5	0.97
7.	**Dermatological disorders:** Dandruff, hair fall, wounds, cuts, boils	122	10	0.93
8.	**Fever and physical pain:** fever, headache, weakness, body pain, ear pain.	108	13	0.89
9.	**Oral Hygiene:** Tooth cleaning, gum problems	57	2	0.98
10.	**Blood:** Heart disease**,** Blood purifier, Jaundice, Anaemia	72	11	0.86

Fig. 2. Glimpses of Study Area.

Fumaria indica L.

Fragaria vesca L.

Rumex hastatus Link *ersicaria capitata* L.

Bergenia ligulata (Wall.) Engl. *Berberis aristata* DC.

Yucca gloriosa L. *Indigofera heterantha Wall.ex Brandis*

Fig. 3. Photographs of some medicinal plants.

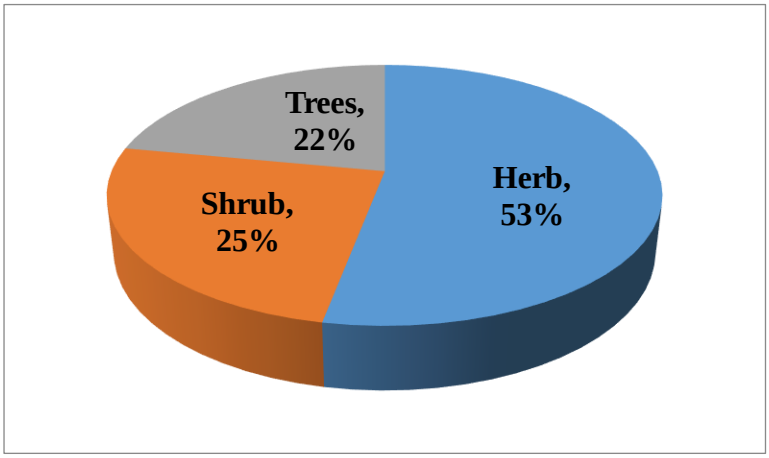


Fig. 4. Types of Ethnomedicinal Plants in Study Area.

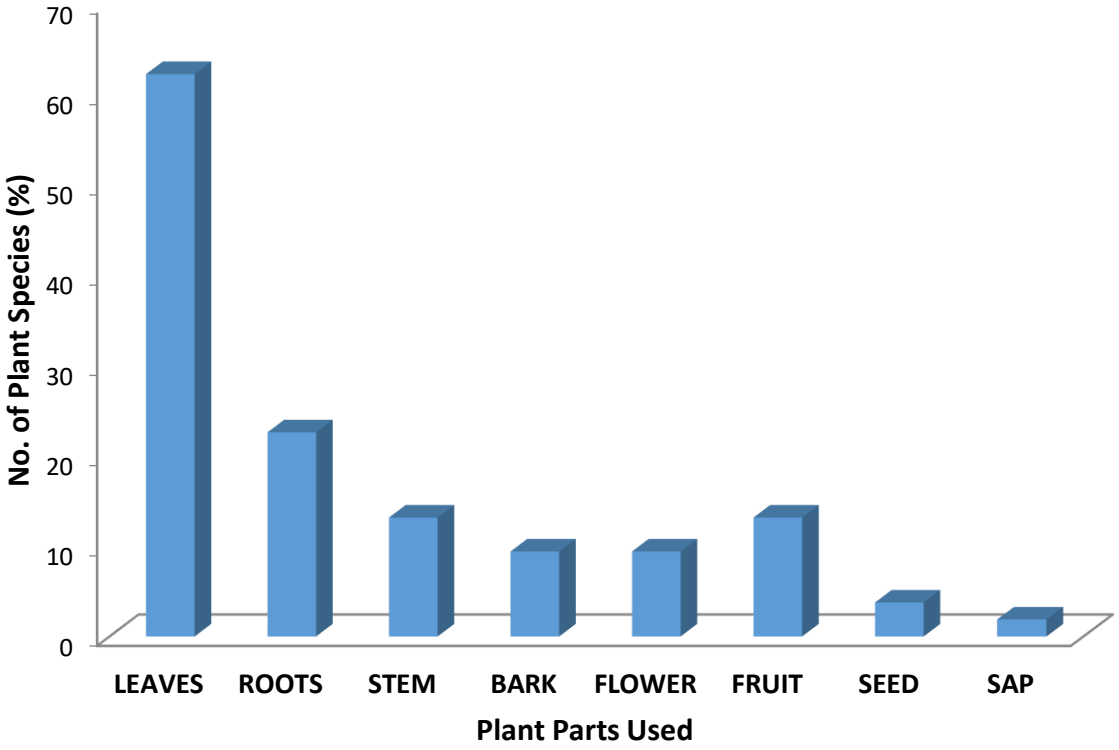


Fig. 5. Plant Parts Used.

CONCLUSIONS

From this ethnobotanical study it is concluded that villages around the Khajjiar region of distt Chamba are very rich in the wealth of medicinal plants and local people are using these plants for the treatment of various diseases. In these villages local healers are very expert in identification and uses of medicinal plants. But unable to transfer their traditional knowledge of use of medicinal plants to next generations. So documentation of some medicinal plants along with their uses helps in sharing of this traditional knowledge with new generations. This study also helps in finding the plants which are having potential for future drugs.

Acknowledgement. Authors are highly thankful to Career Point University Hamirpur (Himachal Pradesh) for providing help to carry out this research work.

REFERENCES

Basant, B. and Chaurasia, O. P. (2009). Medicinal plants of cold desert Ladakh used in the treatment of stomach disorders. *Indian Journal of Traditional Knowledge*, *8*(2), 185–190

Chander, H. and Sharma, G. (2020). Some rare ethnomedicinal plants of lower foot hills of NorthWestern Himalaya in Himachal Pradesh. *Ethnobotany and Conservation*, 123-143.

Chauhan, P. P., Nigam A. and Santvan V. (2014). Ethnobotanical Survey of Trees In Pabbar Valley, Distt. Shimla, Himachal Pradesh. *Life Sciences Leaflets*, *52*, 24-39.

Dutt, B., Sharma S., Sharma K., Gupta, A. and Singh, H. (2011). Ethnobotanical survey of plant used by Gaddi tribe of Bharmour area in Himachal Pradesh. *Himalayan Ecology*, *19*, 1-22.

Gupta, A. (2011). Ethnobotanical studies on Gaddi tribe of Bharmour area of Himachal Pradesh. PhD (Forestry) Thesis, Dr YS Parmar University of Horticulture and Forestry, Nauni, Solan, HP, India), 155.

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

Jain, S. K. (1987). Ethnobotany: its concepts and relevance. Patna, In Press. Add. X *Bot. Conf.*, pp. 1-12.

Jain, S. K. and Rao, R. R. (1967). *A handbook of field and herbarium methods*. New Delhi, Today and Tomorrow Printers and Polishers. 33-58.

Jishtu, V., Bhondge, S. W., Bhushan, B., Chauhan, M. and Chauhan, A. (2021). Threatened ethnomedicinal plants of Dodra-Kwar region of Himachal Pradesh, NW Himalaya. *Journal of Medicinal Plants*, *9*(2), 151-159.

Kaur, H. and Sharma, M. (2004). *Flora of Sirmaur* (Himachal Pradesh). Bishen Singh Mahendra Pal Singh, Dehra Dun.

Kumar, A., Samant, S. S., Tiwari, L. M. and Paul, S. (2019). Diversity, Distribution and Utilization Pattern of Medicinal Plants in Kalatop-Khajjiar Wildlife Sanctuary of Chamba District, Himachal Pradesh, India. *International Journal of Medicine*, 218-242.

Kumar, R., Kumar, R., Dushyant, Rawat, P. and Lata, Swarn (2024). Ethno-medicinal Uses of the Floristic Wealth

of Upper Giri-Khad Watershed, District Shimla, Himachal Pradesh, North-Western (NW) Himalaya. *Biological Forum – An International Journal, 16*(12), 130-138.

Malik, Z. A., Bhat, J. A., Ballabha, R., Bussmann, R. W. and Bhatt, B. A. (2015). Ethnomedicinal plants traditionally used in health care practices by inhabitants of western Himalaya. *Journal of Ethnopharmacology, 2015*(172), 133–144.

Phillips, O., Gentry, A. H., Reynel, C., Wilkin, P. and Gálvez-Durand B, C. (1994). Quantitative ethnobotany and Amazonian conservation. *Conservation Biology, 8*(1), 225-248.

Rathore, Sumati and Kumar, Rakesh (2025). Ethnobotanical Study of Medicinal Plants of Kangra, Himachal Pradesh. *Indian Forester, 151*(3), 237-243. https://doi.org/10.36808/if/2025/v151i3/170516

Rani, S. & Rana, J. C. (2014). Ethnobotanical Uses of Some Plants of Bhattiyat Block in District Chamba, Himachal Pradesh (Western Himalaya). *Ethnobotany Research & Applications*, 407-414.

Rawat, D. S. and Kharwal, A. D. (2021). Quantitative ethnobotany of Different Ficus species in Shivalik Hils, Himachal Pradesh (India). *International Journal of Botany Studies, 6*(6), 1214-1216.

Rawat, G. S. and Singh, S. K. (2006). Structure and composition of woody vegetation along the altitudinal and human use gradients in Great Himalayan National Park, North-western Himalaya. *Proc. Nat. Acad. Sci. India. 76B* (2), 194-202.

Samant S. S. and Pant S. (2006). Diversity, distribution pattern and conservation status of plants used in liver diseases/ailments in Indian Himalayan Region. *Journal of Mountain Science, 3*(1), 28-47.

Samant, S. S. and Dhar, U. (1997). Diversity, endemism and economic potential of wild edible plants of Indian Himalaya. *Int. J. Sustain. Dev. World Ecol*., *4*, 179-191.

Saxena, K. G., Maikhuri, R. K. and Rao, K. S. (2005). Changes in agricultural biodiversity: Implications for sustainable livelihood in the Himalaya. *Journal of Mountain Science, 2*, 23–31.

Sharma, A., Kumar, S. V., Sharma, P. and Chandel, S. (2014). Studies on traditional knowledge of ethnomedicinal plants in Jawalamukhi Himachal Pradesh, India. *International Research Journal of Biological Sciences, 3*, 6-12.

Sharma, M., Yangzom, S., Sharma, M. and Sharma, M. (2024). Ethnobotanical Studies of High Valued Medicinal Plants Reported from Spiti Valley in Himachal Pradesh. *Biology Bulletin, 51*(1), 104-114.

Shrestha, K. L. (2005). Global change impact assessment for Himalayan Mountain regions for environmental management and sustainable development. *Global Environmental Research-English Edition, 9*(1), 69-81.

Singh, S. K. and Rawat, G. S. (2000). *Flora of Great Himalayan National Park, Himachal Pradesh*. Bishen Singh Mahendra Pal Singh, Dehradun.

Singh H. and Sharma, M. (2006). Flora of Chamba district (Himachal Pradesh). Bishen Singh, Mahendra Pal Singh, Dehradun.

Subramani, S. P., Jishtu, V., Verma, R. K. and Kapoor, K. S. (2007). Floristic composition and life form and biological spectrum of Renuka Wildlife Sanctuary, Himachal Pradesh. *Indain Forester, 133*(3), 79-91.

Thakur, M., Asrani, R. K., Thakur, S., Sharma, P. K., Patil R. D., Lal, B. and Parkash, O. (2016). Observations on traditional usage of ethnomedicinal plants in humans and animals of Kangra and Chamba districts of Himachal Pradesh in North-Western Himalaya, India. *Journal of ethnopharmacology, 191*, 280-300. DOI: https://doi.org/10.1016/j.jep.2016.06.033

Thakur, A., Singh, S. and Puri S. (2020). Exploration of Wild Edible Plants Used as Food by Gaddis-A Tribal Community of the Western Himalaya. *The Scientific World Journal*, 1-6.

Thakur, K. S., Munesh, K. and Pala, N. A. (2016). Utilization of Valuable Higher Altitude Plants as a Source of Income Generation and Traditional Medicine in Bharmour Forest Division, Himachal Pradesh, India. *Medicinal & Aromatic Plants*, *5*(1), 1-3.

Thakur, P. & Sarika (2016). Ethno-medicinal uses of some plants of Potter's Hill in Shimla (Himachal Pradesh, India). *Biological Forum- An International Journal, 8*(2), 417-422.

Verma, R. K., Jistu, V., Kapoor, K. S. and Subramani, S. P. (2003b). Analysis of plant diversity in Man Lunga Valley and Khamegar Valley of Pin Valley National Park in Himachal Pradesh. *Envir. & Ecol., 21*(4), 941-946.

Verma, R. K., Jistu, V., Kapoor, K. S., Subramani, S. P. and Jistu, V. (2003a). Assessment of plant species diversity in *Betula utilis* D. Don forest in Cold Arid region of Himachal Pradesh. *Envir. & Ecol., 21*(4), 922-927.

Verma, R. K., Subramani, S. P., Kapoor, K. S. and Kumar, S. (2005). Status of plant diversity around Renuka Lake in Renuka Wildlife Sanctuary, Himachal Pradesh. *Envir. & Ecol., 23*(1), 158-163.

Verma, R. K., Subramani, S. P., Kapoor, K. S. and Kumar, S. (2006). Plant diversity in alpine pasture of Shikari Devi Wild Life Sanctuary of District Mandi, Himachal Pradesh. *Envir. & Ecol., 24*(2), 243-248.

How to cite this article: Arun Kumar, Gulshan Kumar and Hem Chander (2026). Study on Ethnomedicinal Flowering Plants of Khajjiar Region, Distt Chamba, Himachal Pradesh of Western Himalaya. *International Journal of Theoretical & Applied Sciences*, *18*(1): 29–37.